Maryland Department of Health & Mental Hygiene

Baseline Cancer Report

Cigarette Restitution Fund Program

Cancer Prevention, Education, Screening and Treatment Program

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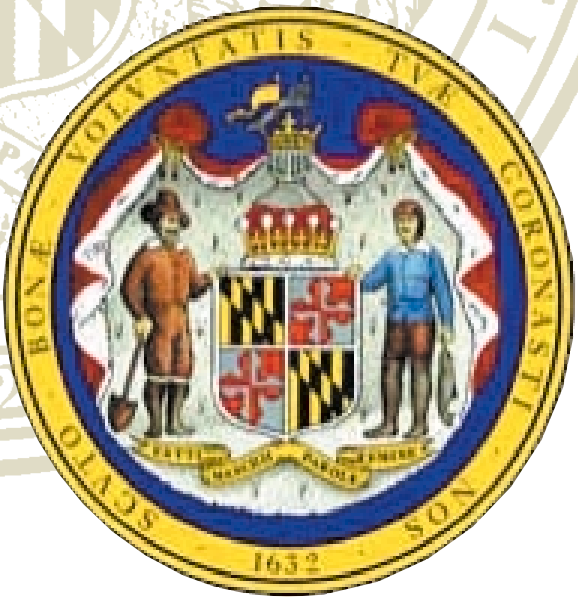

August 14, 2000

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I. INTRODUCTION

A. Tobacco Settlement Overview[1]

The State of Maryland is a signatory party to the master settlement agreement reached in a multi-state litigation against the tobacco industry. The purpose of the litigation was to recover Medicaid costs associated with the treatment of smoking-related illness. It is anticipated that Maryland will receive an estimated $4 billion over the next 25 years as a result of this settlement.

On June 3, 1999, Governor Glendening presented a ten (10) year vision focused on making substantial advances in education, health and tobacco crop conversion within the State using funds from the tobacco settlement. This plan provides $50 million annually to combat cancer, including funding of up to $15 million per year to the University of Maryland Medical Group and the Johns Hopkins Institutions.

The Task Force to Conquer Cancer in Maryland was established and charged with providing recommendations to the Governor on how best to spend the funds earmarked towards combating cancer in Maryland. The *Report of the Governor's Task Force to Conquer Cancer in Maryland* was released to the public on December 9, 1999.

B. Cigarette Restitution Fund

The Maryland General Assembly established a Cigarette Restitution Fund (CRF) to provide for the distribution of funds from the tobacco settlement (Chapter 173). The law creates a Tobacco Use Prevention and Cessation Program and a Cancer Prevention, Education, Screening and Treatment Program and provides parameters on how the funds may be spent. One provision of the law requires the Department of Health and Mental Hygiene to conduct a Baseline Cancer Report.

The law requires the baseline report to 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 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 the Departments seeks to measure; and

[1]Adapted from: *Report of the Governor's Task Force to Conquer Cancer in Maryland*

(7) Any other factor that the Department 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 the baseline cancer report, as follows:

Required Component of the Baseline Cancer Report	*Where the Information is Found in the Report*
1. The number and percentage of individuals who have each targeted cancer both statewide and in each county.	Tables 1, 2, 3, 6, 7, 8, 11, 12, 13, 16, 17, 18, 21, 22, 23, 26, 27, 28, 31, 32, 33, 36, 37, 38
2. The number and percentage of individuals within each minority population who have each targeted cancer, both statewide and in each county.	Same as above.
3. The mortality rate for each targeted cancer, both statewide and in each county.	Tables 1, 4, 5, 6, 9, 10, 11, 14, 15, 16, 19, 20, 21, 24, 25, 26, 29, 30, 31, 34, 35, 39, 40
4. The mortality rate for different minority populations for each targeted cancer, both statewide and in each county.	Same as above.
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.	High incidence and effective prevention: Lung cancer - Tables 6, 7 and 8 High incidence and effective detection: Colorectal and breast cancer - Tables 11, 12, 13, 16, 17, 18
6. Any aspect of targeted and non-targeted cancers that the Departments seeks to measure.	For cancer overall and for each targeted cancer, the report: 1. Compares Maryland's incidence and mortality rates to that of the U.S.; 2. Shows 5-year mortality trends; 3. Shows stage of disease at diagnosis; 4. Lists the appropriate Healthy People 2010 goal for each targeted cancer and identifies where Maryland and the U.S. currently are in meeting the respective goal; 5. Describes the current evidence for screening, primary prevention and chemoprevention for each targeted cancer, based on scientific literature; and 6. Describes the recommended public health intervention for each targeted cancer based on the evidence referenced above. (All of this information is located throughout the report.)
7. Any other factor that the Department determines to be important for measuring rates of cancer in the state or for evaluating whether the program meets its objectives.	Same as above.

The purpose of the Baseline Cancer Report is to assist local health departments and local health coalitions under the Cigarette Restitution Fund in planning and implementing comprehensive cancer prevention, education, screening and treatment programs. The primary goal of this program is to reduce cancer mortality in the state of Maryland. The data and the "Public Health Intervention" recommendations are intended to provide guidance to local health departments and other community organizations in deciding how to allocate limited resources (e.g. staff time, funding) to the maximum benefit, with the goal of reducing cancer mortality.

C. Baseline Cancer Report Format

1. Selection of Targeted Cancers

Under the Cancer Prevention, Education, Screening, and Treatment Program, seven cancer sites are targeted: lung and bronchus, colon and rectum, breast, prostate, oral, melanoma of the skin, and cervix. These cancers are 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, 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 cancers combined and the seven cancers targeted by the Cancer Prevention, Education, Screening and Treatment Program during fiscal year 2001.

For each targeted cancer site, the number of new cancers, cancer deaths, and age-adjusted cancer incidence and mortality rates are presented by race, gender, and jurisdiction. All rates are age-adjusted to the 1970 U.S. standard population. For each targeted cancer site, trends in incidence and mortality, race-specific incidence and mortality rates, stage of disease at diagnosis, public health evidence, recommended areas for public health intervention, and Maryland screening rates compared to Healthy People 2010 screening objectives are also presented.

Maryland's 1997 incidence and mortality rates with 95% confidence intervals (95% C.I.) were compared to 1997 data from the Surveillance, Epidemiology and End Results (SEER) Program Cancer Statistics Review (1987-1997).

D. Maryland Data Sources

The state-specific data used in this report were supplied by the Maryland Cancer Registry, the Maryland Division of Health Statistics and the Office of Public Health Assessment.

1. Maryland Cancer Registry

The Maryland Cancer Registry (MCR) is a computerized data system that registers all new cases of reportable human cancers diagnosed or treated in Maryland. Incidence rates used in this report are calculated for the year 1997, the most complete data available (over 99%), and includes all cases reported to the MCR as of March 31, 2000.

a. Registry Data Sources

The Maryland cancer reporting law mandates the collection of cancer information from hospitals, radiation therapy centers, diagnostic laboratories (both in-state and out-of-state), freestanding ambulatory care facilities, surgical centers and physicians whose non-hospitalized cancer patients are not otherwise reported. The MCR also participates in data exchange agreements with neighboring states including Delaware, Pennsylvania, Virginia, West Virginia and the District of Columbia. Information on Maryland residents diagnosed or treated for cancer in these states is included in this report.

b. MCR Data Quality and Completeness of Case Ascertainment

The MCR recently received "gold" certification from the North American Association of Central Cancer Registries. The MCR was awarded the "gold" status in every criteria reviewed (data quality, completeness and timeliness).

2. Maryland Division of Health Statistics

This state agency registers births, deaths, marriages and divorces. Data provided from this Office were used to calculate cancer mortality rates and Maryland population estimates.

3. Behavioral Risk Factor Surveillance Survey

The Maryland Behavioral Risk Factor Surveillance Survey (BRFSS) is an annual telephone survey conducted on a random sample of Maryland adult residents. This survey, managed by the Maryland Office of Public Health Assessment, provided cancer screening information for this report.

E. National Data Sources

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

1. National Center for Health Statistics/CDC Wonder

National cancer mortality data was obtained from the National Center for Health Statistics (NCHS). CDC WONDER, an interactive on-line data base managed by NCHS provided the mortality information.

2. National Health Interview Survey (NHIS)

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

3. Healthy People 2010

Healthy People 2010 is a collaboration of local and national governmental agencies and private organizations that have developed national health objectives to improve the health of Americans. There are 28 focus areas and 467 specific objectives in Healthy People 2010. Healthy People is under the Office of Disease Prevention and Health Promotion, Department of Health & Human Services.

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

The Surveillance, Epidemiology, and End Results Program (SEER) collects and publishes information on cancer incidence, stage and survival in the United States. The data are collected from nine cancer registries throughout the United States and are estimated to represent approximately 11% of the U.S. population. The SEER Program is managed by the National Cancer Institute.

5. National Cancer Institute's Physician Data Query (PDQ®)

The information provided under the sections for "Public Health Evidence" and "Public Health Intervention" were taken primarily from the National Cancer Institute's Physician Data Query (PDQ®) Cancernet website. This source provides information for health professionals and the public on varying aspects of cancer control such as prevention, screening, treatment, genetics, and clinical trials. The information is reviewed by a scientific editorial board and is updated as new research becomes available. Each statement listed in the PDQ is based on research with certain levels of evidence. The levels of evidence used by the National Cancer Institutes's PDQ, in order of strongest evidence to weakest evidence is as follows:

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

This reference was used throughout the report for consistency in interpreting the results of scientific literature.

F. Data Considerations (See Also Appendix A)

1. Data Confidentiality

The Maryland Department of Health and Mental Hygiene (DHMH) regards all data received, processed, and reported to and by the Maryland Cancer Registry and the Division of Health Statistics as confidential. Data are secured from unauthorized access and disclosure.

The Maryland Cancer Registry manages and releases cancer information in accordance with the laws, rules, and regulations established for and by the State of Maryland as set forth in the Code of Maryland Regulations 10.14.01, Cancer Registry and Md. Code Ann., Health-General §§18-203 and 18-204.

In order to ensure patient confidentiality and to comply with the *Maryland Cancer Registry Data Use Policy*, cells with less than six cases are presented as "5 or less." Cells which may be used to calculate the number of cases within a restricted cell are suppressed.

2. Rate Analysis

The incidence data presented in this report were calculated using Maryland resident cancer cases diagnosed from January 1, 1997 through December 31, 1997 and reported to the MCR as of March 31, 2000. The mortality data consists of deaths which occurred between January 1, 1997 and December 31, 1997 and January 1, 1998 and December 31, 1998.

Incidence and mortality rates were calculated and age-adjusted using the 1970 U.S. population as the standard population.

Incidence and mortality rates are not presented for cells with less than 26 cases. Rates based on numbers of this size are unstable and do not provide reliable information.

3. National Comparison Data

Maryland incidence and mortality rates are compared to 1997 SEER incidence rates and 1997 U.S. mortality rates (NCHS). National mortality data for the year 1998 are not available yet. In addition, the SEER program does not provide statistics on "other" races.

4. Native American and Asian data

Cancer reporting facilities were not requested to provide information on Native American or Asian race prior to 1998.

5. Hispanic Origin of Birth

Information on Hispanic origin of birth is not reliably collected by the Maryland Cancer Registry and is not included in this report. Reporting facilities were not requested to provide this information prior to August, 1998. Information on Hispanic origin should be available in the 2000 Cancer Registry Annual Report.

II. TARGETED CANCERS

A. ALL CANCER SITES COMBINED

Incidence (New Cases)

A total of 24,305 new cancers were reported to the Maryland Cancer Registry in 1997. The State's total age-adjusted cancer incidence rate is 433.1 per 100,000 population (427.5-438.7, 95% CI). Maryland's 1997 cancer incidence rate is statistically significantly higher than the 1997 SEER[2] rate of 395.0 per 100,000 population.

Mortality (Deaths)

A total of 10,092 Marylanders died from cancer in 1997. Maryland's overall cancer mortality rate for 1997 is 174.9 per 100,000 population (171.5-178.4, 95% C.I.). This rate is statistically significantly higher than the 1997 U.S. cancer mortality rate of 163.7 per 100,000 population. Currently, Maryland is ranked 8th among the states and the District of Columbia in total cancer mortality.

Table 1. Overall Cancer Incidence (1997) and Mortality (1997 and 1998) Rates by Gender and Race, Maryland and the United States*

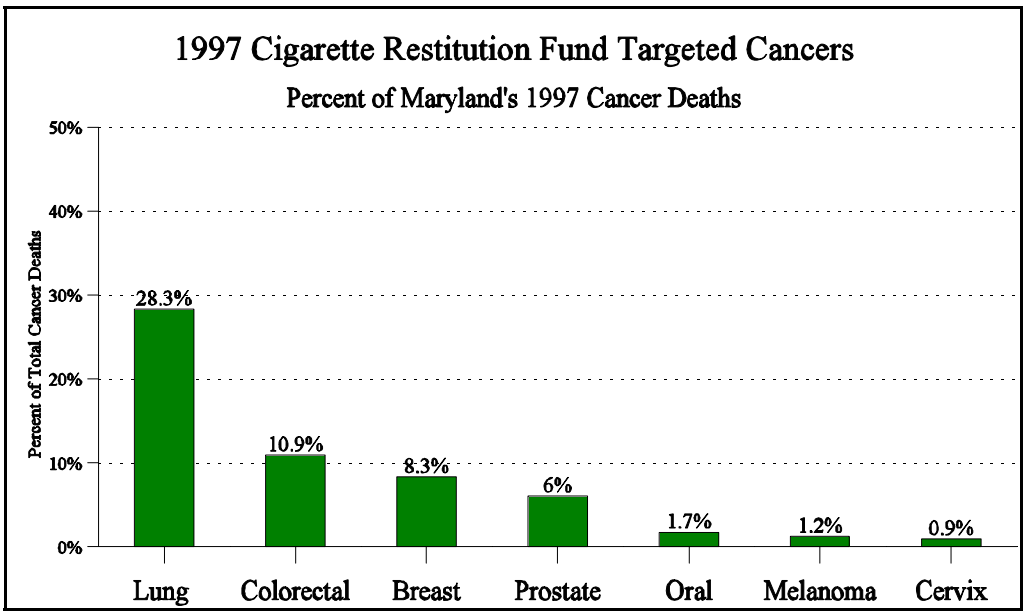
Incidence 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
New Cases (#)	24,305	12,281	12,024	17,881	5,040	624
Incidence Rate	433.1	509.3	379.8	415.1	446.9	381.5
SEER Rate[2]	395.0	456.2	352.0	395.2	434.3	-
Mortality 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	10,092	5,181	4,911	7,471	2,487	134
MD Mortality Rate	174.9	215.7	147.5	164.6	228.9	
1997 U.S. Rate	163.7	201.9	137.0	160.6	213.0	-
Mortality 1998	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	10,187	5,182	5,005	7,623	2,429	135
MD Mortality Rate	172.7	209.0	147.9	165.5	211.7	-
1998 U.S. Rate*	-	-	-	-	-	-

* The 1998 U.S. mortality information is not available.

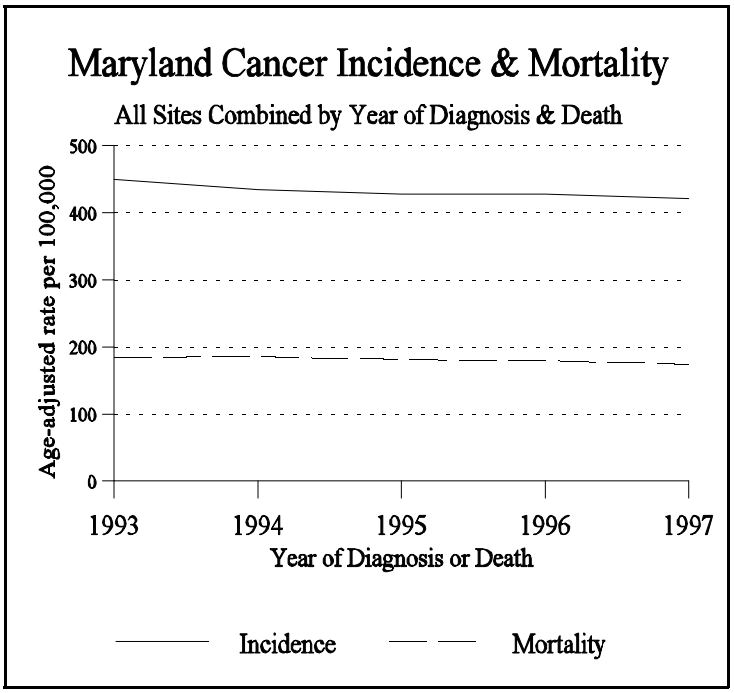
Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

[2]The Surveillance Epidemiological End Results (SEER) Program consists of 9 registries, covering approximately 11% of the U.S. population, which collect incidence data for the National Cancer Institute.

In 1997, the targeted cancers represented 57.3% of the 10,092 cancer deaths that occurred in Maryland. Twenty-eight percent of all 1997 cancer-related deaths in Maryland were due to lung & bronchus cancer.



Maryland Division of Health Statistics, 1997
Total Cancer Deaths = 10,092

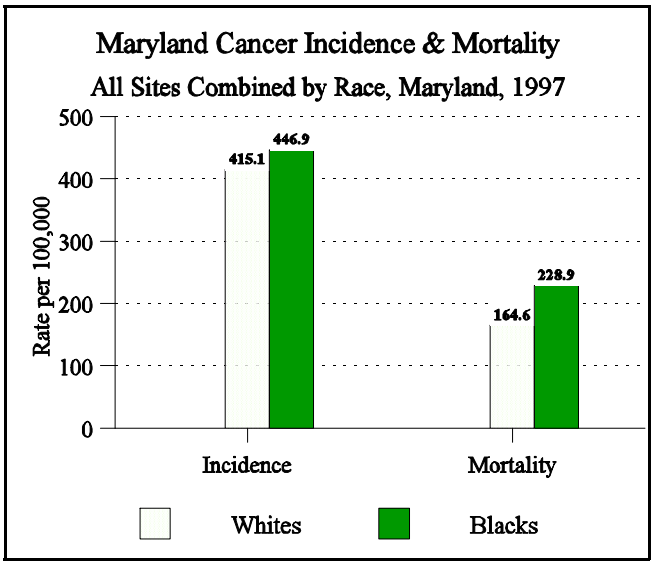


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Total cancer incidence (new cases) rates in Maryland decreased an average of 1.5% per year from 1993 to 1997.

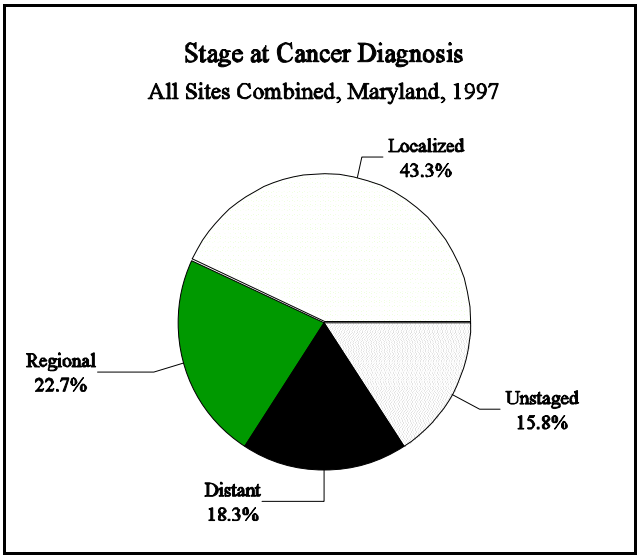
Total cancer mortality (death) rates decreased an average of 1.4% per year during the same time period.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

In general, blacks in Maryland experience higher overall cancer incidence and mortality rates than whites.

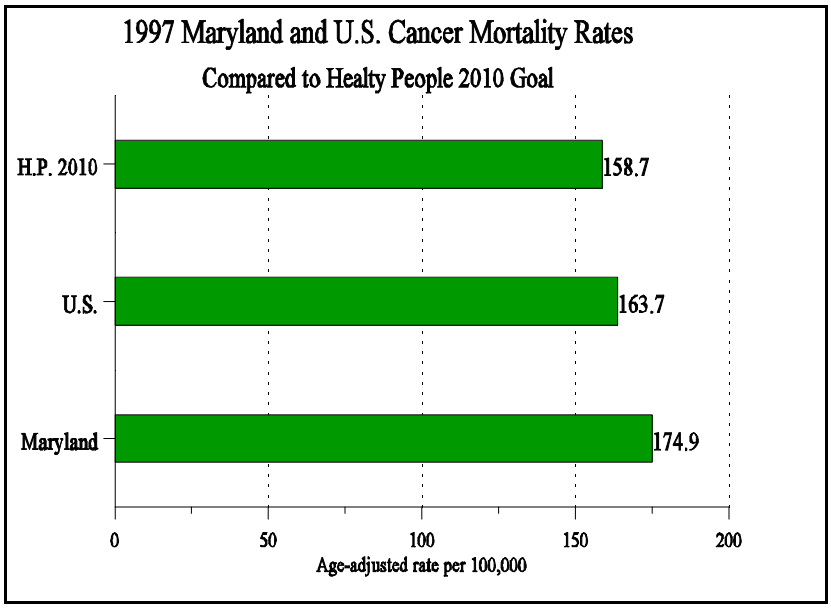


Maryland Cancer Registry, 1997

Stage at Diagnosis

The stage of disease at diagnosis is an important predictor of cancer survival. Less than half of the new cancers diagnosed in 1997 were at the localized (early), most treatable stage.

Blacks were diagnosed with distant cancer (most advanced stage) in higher proportions than whites (22.1% v.s. 17.6%).



Maryland Division of Health Statistics, 1997
Department of Health & Human Services

Healthy People 2010 Goals

Maryland's 1997 overall cancer mortality rate of 174.9 per 100,000 population is higher than the U.S. overall cancer mortality rate. The Healthy People 2010 goal is to reduce cancer mortality to 158.7 per 100,000 population.

Summary - Targeted Cancers

The cancers targeted as priorities under the Cigarette Restitution Fund in 2001 are: lung & bronchus, colon & rectum, prostate, breast, cervical, oral and skin (melanoma) cancers.

The public health prevention priorities are:

- the prevention and cessation of tobacco use
- the early detection and treatment of:
  - colon/rectum cancer
  - cervical cancer
  - oral cancer
  - breast cancer
  - prostate cancer
- protection of the skin from excessive sun exposure or exposure to ultraviolet light

Table 2. Number of New Cancer Cases by Jurisdiction, Gender and Race, Maryland, 1997							
Jurisdiction	Total	Gender		Race*			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	24,305	12,281	12,024	17,881	5,040	624	760
Allegany	522	263	259	504	8	6	**
Anne Arundel	2,281	1,153	1,128	1859	269	41	112
Baltimore City	3,665	1,816	1,849	1748	1,828	36	53
Baltimore County	4,281	2,172	2,109	3,580	554	54	93
Calvert	290	149	141	230	46	**	s
Caroline	173	98	75	144	28	**	s
Carroll	719	370	349	677	17	7	18
Cecil	357	193	164	333	11	6	7
Charles	408	234	174	309	77	8	14
Dorchester	219	114	105	167	50	**	**
Frederick	739	371	368	628	54	10	47
Garrett	122	57	65	113	**	**	**
Harford	873	434	439	789	59	8	17
Howard	699	331	368	542	96	25	36
Kent	134	77	57	100	25	**	s
Montgomery	3,635	1,766	1,869	2,851	364	258	162
Prince George's	2,742	1,395	1,347	1257	1,284	101	100
Queen Anne's	211	111	100	181	25	**	**
Saint Mary's	342	170	172	272	47	15	8
Somerset	165	100	65	112	49	**	**
Talbot	248	130	118	216	25	6	**
Washington	662	339	323	640	8	**	s
Wicomico	390	199	191	319	58	9	**
Worcester	318	170	148	268	40	**	s
Unknown	110	69	41	42	14	15	39

*Other includes Asian and Native American.

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry

Table 3. All Sites Cancer Age-Adjusted Incidence Rates
by Jurisdiction, Gender and Race, Maryland, 1997

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	433.1	509.3	379.8	415.1	446.9	381.5
Allegany	446.4	529.8	388.7	438.5	**	**
Anne Arundel	483.1	555.0	431.7	460.6	474.4	422.0
Baltimore City	448.3	543.1	389.0	484.9	416.1	372.5
Baltimore County	445.2	521.8	390.0	412.5	779.3	297.2
Calvert	430.5	490.6	392.5	440.4	319.9	**
Caroline	449.0	564.1	354.2	465.1	370.8	**
Carroll	457.0	550.7	391.3	444.0	**	**
Cecil	406.6	470.0	356.6	401.4	**	**
Charles	448.5	592.5	338.0	455.8	379.7	**
Dorchester	488.7	569.9	427.4	531.4	385.8	**
Frederick	400.6	460.7	359.4	366.5	484.6	**
Garrett	323.4	333.6	314.2	300.7	**	**
Harford	427.0	478.7	391.3	428.3	348.3	**
Howard	379.2	422.9	351.8	359.0	369.1	**
Kent	454.3	554.3	368.6	437.2	**	**
Montgomery	403.0	464.2	363.1	384.4	440.0	346.5
Prince George's	438.0	535.9	367.5	364.5	530.1	341.1
Queen Anne's	417.6	464.3	380.6	427.0	**	0.0
Saint Mary's	430.7	456.0	415.7	421.7	354.7	**
Somerset	518.3	661.1	403.0	527.2	448.4	**
Talbot	411.4	485.1	354.9	446.3	**	**
Washington	397.8	459.2	359.6	399.5	**	**
Wicomico	407.0	480.6	361.5	441.5	253.3	**
Worcester	484.1	561.1	417.0	525.8	284.5	**

Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Registry, 1997

Table 4. Number of New Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 1998

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others*
Maryland	10,187	5,182	5,005	7,623	2,429	135
Allegany	208	107	101	s	**	0
Anne Arundel	863	481	382	746	109	8
Baltimore City	1,890	955	935	804	1,079	7
Baltimore County	1,809	895	914	1,636	162	11
Calvert	117	61	56	90	26	**
Caroline	57	37	20	49	8	0
Carroll	264	132	132	255	7	**
Cecil	167	83	84	157	9	**
Charles	199	111	88	147	50	**
Dorchester	94	50	44	68	25	**
Frederick	293	162	131	266	24	**
Garrett	57	23	34	57	0	0
Harford	389	205	184	359	29	**
Howard	312	151	161	257	42	13
Kent	51	25	26	43	8	0
Montgomery	1,314	636	678	1,112	143	59
Prince George's	1,163	590	573	571	569	23
Queen Anne's	80	41	39	69	10	**
Saint Mary's	117	60	57	93	23	**
Somerset	56	28	28	33	23	0
Talbot	90	50	40	77	s	**
Washington	296	155	141	288	8	0
Wicomico	151	69	82	115	36	0
Worcester	150	75	75	125	25	0

* Other includes Native American and Asian

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Diviion of Health Statistics

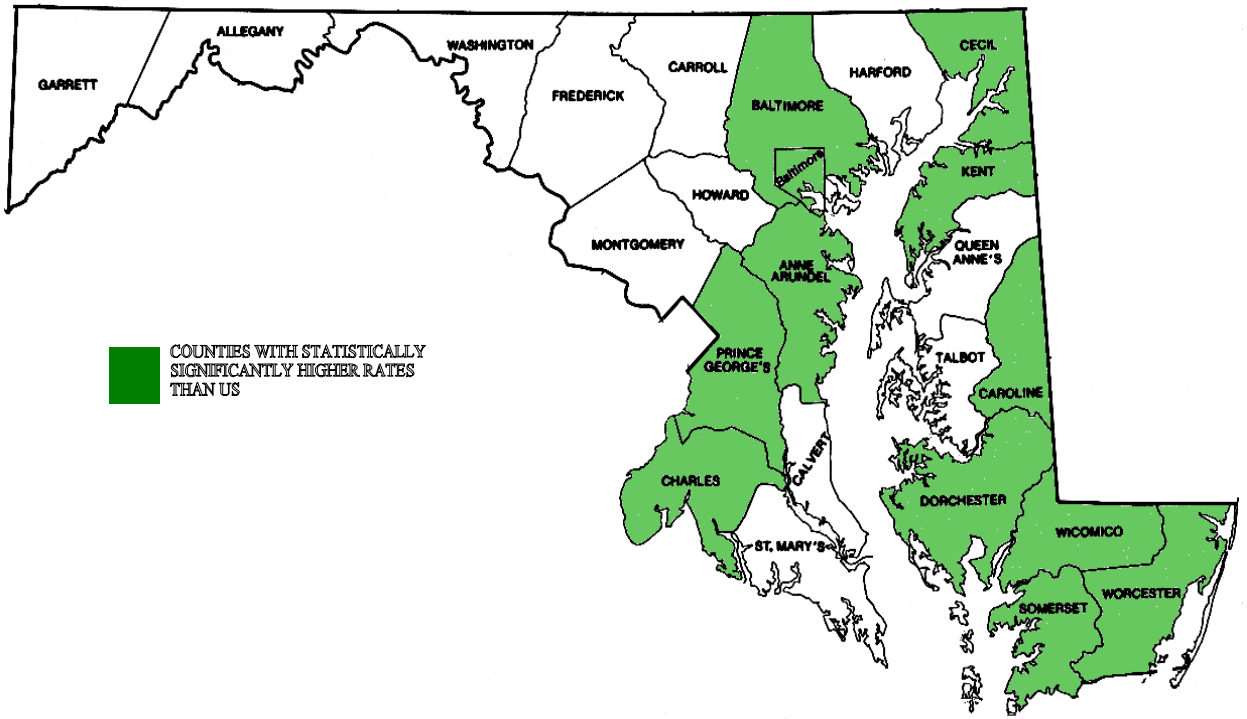
Table 5. All Sites Cancer Age-Adjusted Mortality Rates by Jurisdiction, Gender and Race, Maryland, 1998						
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	172.8	210.0	147.6	165.4	214.0	78.7
Allegany	168.9	213.1	142.0	171.1	**	0.0
Anne Arundel	177.0	229.4	139.7	180.4	173.2	**
Baltimore City	237.0	303.3	193.4	220.3	254.9	**
Baltimore County	169.0	199.9	149.7	167.6	214.7	**
Calvert	169.9	197.2	148.1	170.8	167.0	**
Caroline	146.3	212.4	**	158.9	**	0.0
Carroll	160.2	194.7	134.7	159.8	**	**
Cecil	186.2	204.4	178.3	186.0	**	**
Charles	210.9	269.4	167.9	211.2	221.0	**
Dorchester	196.4	247.4	158.0	196.6	**	**
Frederick	159.2	207.1	122.7	154.5	**	**
Garrett	139.5	**	154.3	140.1	0.0	0.0
Harford	178.4	219.3	148.5	184.0	153.8	**
Howard	162.7	189.3	148.4	163.1	168.4	**
Kent	170.8	**	175.5	189.9	**	0.0
Montgomery	131.0	155.2	115.4	132.1	169.3	72.6
Prince George's	175.1	214.1	148.5	150.2	225.3	**
Queen Anne's	155.4	178.9	143.4	167.5	**	**
Saint Mary's	146.3	163.3	136.3	145.9	**	**
Somerset	167.6	185.0	157.8	153.5	**	0.0
Talbot	139.8	172.9	121.7	148.7	**	**
Washington	168.5	205.2	142.4	168.3	**	0.0
Wicomico	154.0	172.3	139.0	153.9	154.3	0.0
Worcester	215.6	242.2	197.4	228.9	**	0.0

Rates are age-adjusted to 1970 Standard U.S. population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Divison of Health Statistics, 1998

MARYLAND OVERALL CANCER MORTALITY RATES BY JURISDICTION
1993-1997



Rates are age-adjusted to the 1970 Standard U.S. Population and presented per 100,000 population.
County-specific rates with 95% confidence intervals are presented in Appendix E.
U.S. Overall Cancer Mortality Rate, 1993-1997: 168.8 per 100,000 population.

Maryland Division of Health Statistics, 1993-1997

B. LUNG & BRONCHUS CANCER

Incidence (New Cases)

There were 3,683 new lung and bronchus cancers (hereinafter called lung cancer) among Maryland residents in 1997. Lung cancer represented 15.2% of new cancers diagnosed in 1997. The 1997 age-adjusted lung cancer incidence rate in Maryland is 66.9 per 100,000 population (64.8-69.1, 95% C.I.) which is statistically significantly higher than the 1997 SEER lung cancer incidence rate of 54.4 per 100,000 population.

Mortality (Deaths)

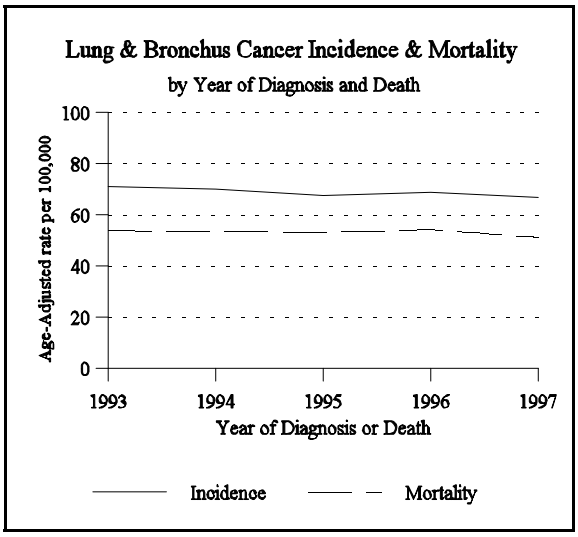
There were 2,852 lung cancer deaths among Maryland residents in 1997. Lung cancer accounts for approximately 28% of all cancer deaths in Maryland and is the leading cause of cancer deaths in both men and women. The 1997 age-adjusted lung cancer mortality rate in Maryland is 51.3 per 100,000 population (49.4-53.1, 95% C.I.). This rate is statistically significantly higher than the 1997 U.S. lung and bronchus cancer mortality rate of 48.3 per 100,000 population. Maryland has the 17th highest lung cancer mortality rate among the states and the District of Columbia, 20th among men and 9th among women.

Table 6. Lung Cancer Incidence (1997) and Mortality (1997 and 1998) Rates by Gender and Race, Maryland and the United States

Incidence 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (#)	3,683	2,074	1,609	2,860	758	54
MD Incidence Rate	66.9	86.9	51.8	67.0	70.1	35.7
SEER Rate	54.4	69.1	43.1	54.7	68.4	-
Mortality 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	2,852	1,670	1,182	2,184	645	23
MD Mortality Rate	51.3	70.0	37.2	50.1	60.5	-
1997 U.S. Rate	48.3	66.6	34.5	48.1	57.6	-
Mortality 1998	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	2,965	1,692	1,273	2,285	654	21
MD Mortality Rate	52.0	68.8	39.5	51.6	58.4	-
1998 U.S. Rate	-	-	-	-	-	-

* The 1998 U.S. mortality information is not available.

Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

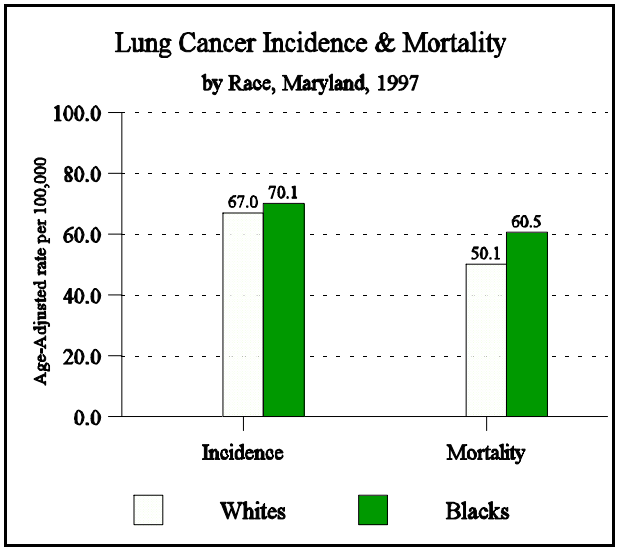


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Lung cancer incidence rates in Maryland have decreased an average of 1.8% per year from 1993 to 1997.

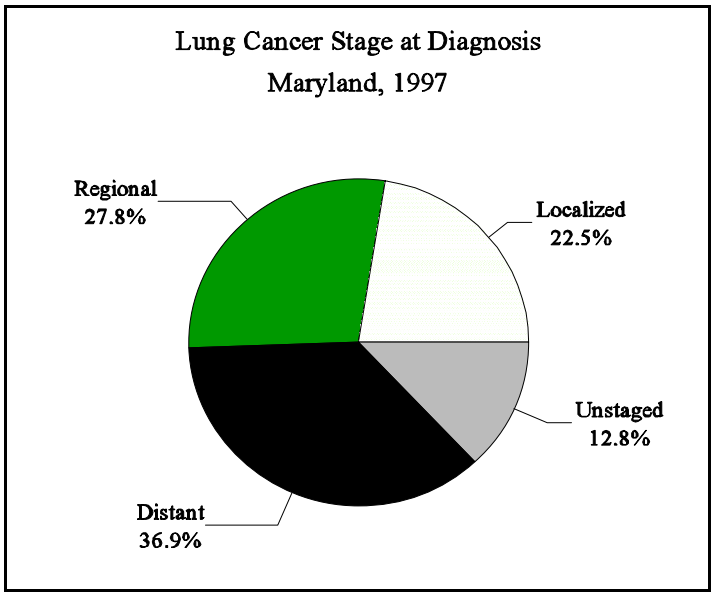
Lung cancer death rates rose rapidly during most of the 20th century, due primarily to increases in cigarette smoking. Lung cancer death rates started declining in the 1990's. Lung cancer mortality rates have decreased an average of 0.9% per year in Maryland from 1993 to 1997. Lung cancer death rates have declined in males since 1990. In contrast, lung cancer death rates in females have continued to increase.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

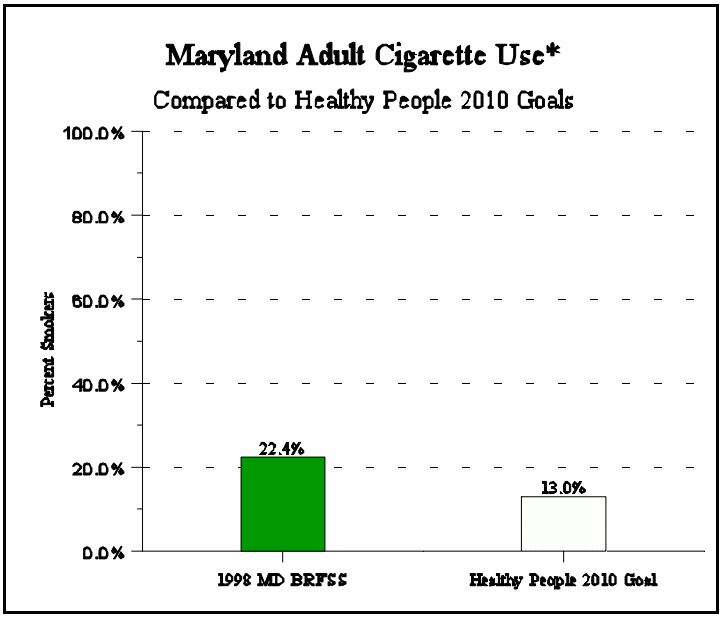
Blacks have higher lung cancer incidence and mortality rates than whites.



Maryland Cancer Registry, 1997

Stage at Diagnosis

Twenty-two percent (22%) of 1997 total lung cancers in Maryland were diagnosed at the localized (early) stage.



* Persons 18 and over who have smoked 100 cigarettes and currently smoke at least some days.

Source: Maryland Office of Public Health Assessment, BRFSS, 1998
Department of Health and Human Services

Healthy People 2010 Goals

In 1998, 22% of Maryland adults smoked. The U.S. Healthy People 2010 goal is to reduce to 13% the proportion of adults (18 and older) who use tobacco products.

Public Health Evidence (from National Cancer Institute, PDQ, 5/2000)

Prevention

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. Cigar and pipe smoking have also been associated with increased lung cancer risk. Tobacco avoidance and cessation will result in decreased mortality from lung cancer. Environmental, or second hand, tobacco smoke contains the same components as inhaled mainstream smoke, in lower concentrations. Environmental smoke is associated with increased lung cancer risk. Other risk factors for lung cancer include asbestos and radon exposure. Dietary intake of fruits and vegetables may reduce the risk of lung cancer in *non*smokers.

Primary Chemoprevention

Two randomized controlled clinical trials have shown that pharmacologic doses of beta-carotene increase lung cancer incidence among heavy smokers (one or more packs per day).

Screening

Current scientific evidence does not support lung cancer screening. Screening for lung cancers with chest x-ray and/or sputum cytology in randomized, controlled trials have not demonstrated a reduction in cancer mortality. Spiral CT scanning has emerged as a promising possibility for lung cancer screening, but its effectiveness in reducing lung cancer mortality remains to be proven.

Prevention of initiation of tobacco use among youth,
Cessation of tobacco use among adults and youth,
Reduction of exposure to environmental tobacco smoke, and
Elimination of tobacco-related health disparities, through:

- **Community-based and statewide programs:**
  - Adoption of smoke-free laws and policies (e.g. raising the costs of tobacco products, reducing minors access to tobacco products, reducing exposure to environmental smoke)
  - Effective smoking cessation programs for current tobacco users (individual/group counseling)
  - Nicotine replacement and other pharmacotherapy
  - Effective community-based tobacco use prevention activities encompassing all sectors of the community (e.g. homes, work sites, places of worship and entertainment, civic organizations)

- **School-based programs:**
  - Evidence-based tobacco prevention curricula in schools
  - Evidence-based tobacco cessation programs for youth in schools

- **Enforcement programs:**
  - Enforcement of laws and policies to reduce minors access to tobacco products
  - Enforcement of laws and policies to reduce exposure to environmental tobacco smoke

- **Counter-marketing programs:**
  - Counter tobacco advertisements
  - Raise awareness of the dangers of environmental tobacco smoke
  - Discourage the use of tobacco products and promote smoke-free behavior as the norm
  - Promote cessation of tobacco use

Table 7. Number of New Lung and Bronchus Cancer Cases
by Jurisdiction, Race and Gender, Maryland 1997

Jurisdiction	Total	Gender		Race*			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	3,683	2,074	1,609	2,860	758	54	11
Allegany	88	46	42	84	**	**	**
Anne Arundel	384	211	173	334	46	**	**
Baltimore City	674	375	299	340	327	6	**
Baltimore County	679	365	314	593	78	6	**
Calvert	44	25	19	36	8	0	0
Caroline	29	17	12	s	**	0	0
Carroll	92	65	27	s	**	0	0
Cecil	64	41	23	61	**	**	0
Charles	69	41	28	55	s	**	0
Dorchester	35	26	9	29	6	0	0
Frederick	92	65	27	83	s	**	0
Garrett	17	s	**	17	0	0	0
Harford	139	72	67	132	7	0	0
Howard	92	48	44	76	11	**	**
Kent	30	19	11	24	**	**	0
Montgomery	399	195	204	341	37	18	**
Prince George's	382	225	157	214	158	8	**
Queen Anne's	37	25	12	s	**	0	0
Saint Mary's	54	30	24	46	6	**	0
Somerset	32	25	7	21	10	**	0
Talbot	34	17	17	s	**	0	0
Washington	103	58	45	s	**	0	0
Wicomico	62	36	26	51	11	0	0
Worcester	46	29	17	38	8	0	0
Unknown	6	**	**	**	**	0	0

* Other includes Asian and Native American.

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry, 1997

Table 8. Lung and Bronchus Cancer Age-Adjusted Incidence Rates
by Jurisdiction, Gender and Race, Maryland, 1997

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	66.9	86.9	51.8	67.0	70.1	35.7	**
Allegany	67.3	85.6	54.4	65.2	**	**	**
Anne Arundel	84.5	104.2	68.5	85.4	85.9	**	**
Baltimore City	82.6	112.2	62.9	94.2	74.9	**	**
Baltimore County	69.9	86.7	57.2	66.7	112.6	**	**
Calvert	68.0	**	**	71.2	**	0.0	0.0
Caroline	77.6	**	**	**	**	0.0	0.0
Carroll	59.0	96.4	30.8	58.2	**	0.0	0.0
Cecil	77.1	103.3	**	77.4	**	**	0.0
Charles	80.9	108.2	59.0	87.1	**	**	0.0
Dorchester	74.9	125.7	**	87.8	**	0.0	0.0
Frederick	51.7	83.0	26.7	50.0	**	**	0.0
Garrett	**	**	**	**	0.0	0.0	0.0
Harford	70.1	82.9	61.4	74.0	**	0.0	0.0
Howard	56.3	67.3	47.9	56.5	**	**	**
Kent	99.1	**	**	**	**	**	0.0
Montgomery	45.1	51.9	39.9	46.3	45.6	**	**
Prince George's	64.8	87.9	47.0	63.6	73.7	**	**
Queen Anne's	74.3	**	**	82.4	**	0.0	0.0
Saint Mary's	73.9	85.5	**	77.5	**	**	0.0
Somerset	102.2	**	**	**	**	**	0.0
Talbot	55.7	**	**	64.4	**	0.0	0.0
Washington	64.2	81.5	50.7	65.7	**	0.0	0.0
Wicomico	64.9	87.3	48.9	70.0	**	0.0	0.0
Worcester	70.7	98.6	**	73.6	**	0.0	0.0

Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Registry, 1997

Table 9. Lung & Bronchus Cancer Deaths by Jurisdiction, Gender and Race, Maryland, 1998						
Jurisdiction	Total	Gender		Race*		
		Males	Females	Whites	Blacks	Others
Maryland	2,965	1,692	1,273	2,285	654	26
Allegany	74	47	27	s	**	0
Anne Arundel	269	159	110	237	30	**
Baltimore City	580	341	239	253	325	**
Baltimore County	584	310	274	539	s	**
Calvert	34	18	16	30	**	**
Caroline	20	s	**	s	**	0
Carroll	68	44	24	68	0	0
Cecil	50	33	17	s	**	0
Charles	66	40	26	51	15	0
Dorchester	26	17	9	17	9	0
Frederick	84	55	29	77	s	**
Garrett	20	9	11	20	0	0
Harford	118	69	49	110	8	0
Howard	81	39	42	71	s	**
Kent	17	8	9	s	**	0
Montgomery	272	139	133	234	28	10
Prince George's	321	188	133	181	133	7
Queen Anne's	23	13	10	18	**	**
Saint Mary's	33	21	12	s	**	0
Somerset	22	14	8	15	7	0
Talbot	21	12	9	s	**	0
Washington	87	52	35	s	**	0
Wicomico	47	20	27	40	7	0
Worcester	48	29	19	40	8	0
*Other includes Asian and Native American.						
**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.						
s = Number was supressed to ensure confidentiality of cell in other column.						
Source: Maryland Division of Health Statistics, 1998						

Table 10. Lung & Bronchus Cancer Age-Adjusted Mortality Rates
by Jurisdiction, Gender and Race, Maryland, 1998

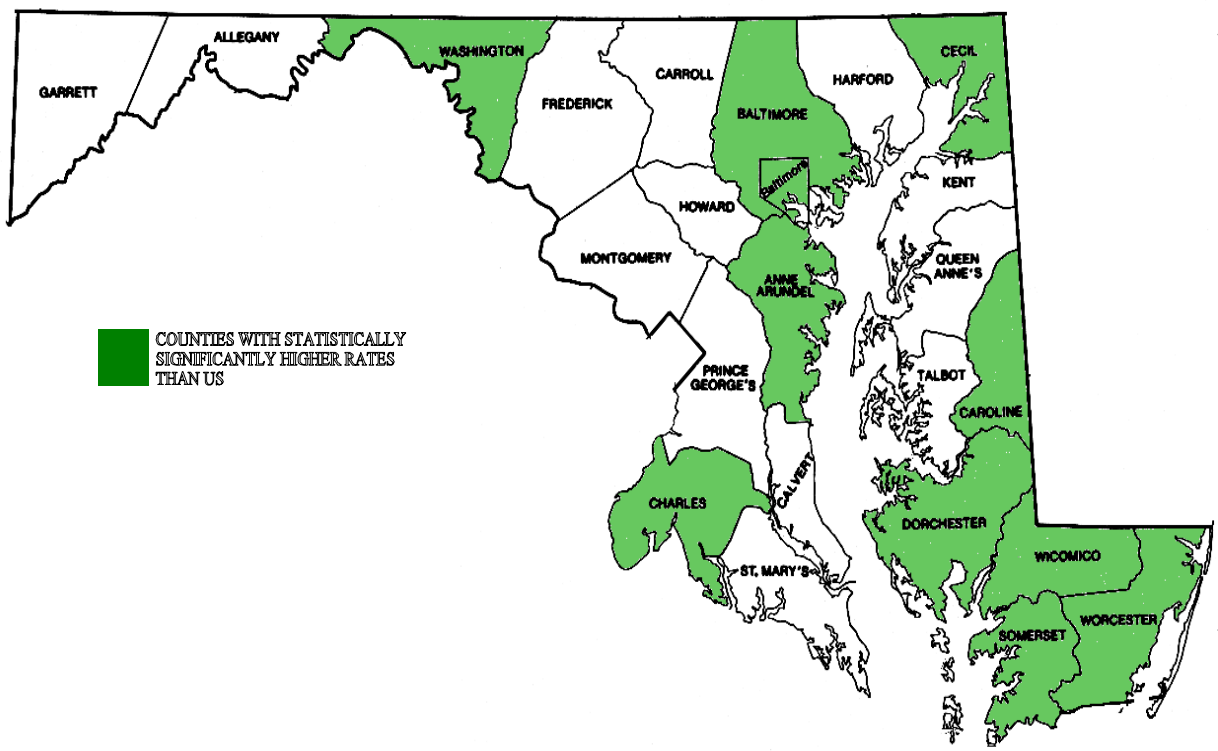
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	52.2	69.2	39.7	51.7	59.2	16.8
Allegany	60.1	93.9	36.1	60.6	**	0.0
Anne Arundel	56.5	75.9	41.6	58.1	52.2	**
Baltimore City	75.2	109.3	52.3	75.3	77.1	**
Baltimore County	56.3	69.2	48.0	56.9	59.6	**
Calvert	50.5	**	**	59.0	**	**
Caroline	**	**	**	**	**	0.0
Carroll	44.3	67.1	**	46.0	0.0	0.0
Cecil	57.9	83.8	**	59.1	**	0.0
Charles	72.9	95.9	56.0	76.4	**	0.0
Dorchester	57.3	**	**	**	**	0.0
Frederick	47.8	72.4	28.6	46.9	**	**
Garrett	**	**	**	**	0.0	0.0
Harford	57.2	75.9	43.1	60.0	*	0.0
Howard	44.1	50.9	39.9	46.8	*	**
Kent	**	**	**	**	**	0.0
Montgomery	28.1	34.5	23.4	28.6	36.7	**
Prince George's	49.7	67.7	36.4	49.5	55.0	**
Queen Anne's	**	**	**	**	**	**
Saint Mary's	42.3	**	**	45.2	**	0.0
Somerset	**	**	**	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	54.1	72.1	40.1	54.8	**	0.0
Wicomico	48.5	**	47.6	54.3	**	0.0
Worcester	69.6	93.4	**	74.5	**	0.0

Rates are age-adjusted to 1970 Standard U.S. population and are presented per 100,000 population

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND LUNG & BRONCHUS CANCER MORTALITY RATES BY COUNTY
1993-1997



Rates are age-adjusted to the 1970 Standard U.S. Population and presented per 100,000 population.
County-specific rates with 95% confidence intervals are presented in Appendix E.
U.S. Overall Cancer Mortality Rate, 1993-1997: 168.8 per 100,000 population.

Maryland Division of Health Statistics, 1993-1997

C. COLON & RECTUM CANCER

Incidence (New Cases)

Cancer of the colon or rectum is often called colorectal cancer. There were 2,818 new cases of colorectal cancers among Maryland residents in 1997. Colorectal cancers represent 11.6% of 1997 new cancers. The 1997 age-adjusted colorectal cancer incidence rate in Maryland is 48.6 per 100,000 population (46.8-50.5, 95% C.I.) which is statistically significantly higher than the 1997 SEER age-adjusted colorectal cancer incidence rate of 43.9 per 100,000 population.

Mortality (Deaths)

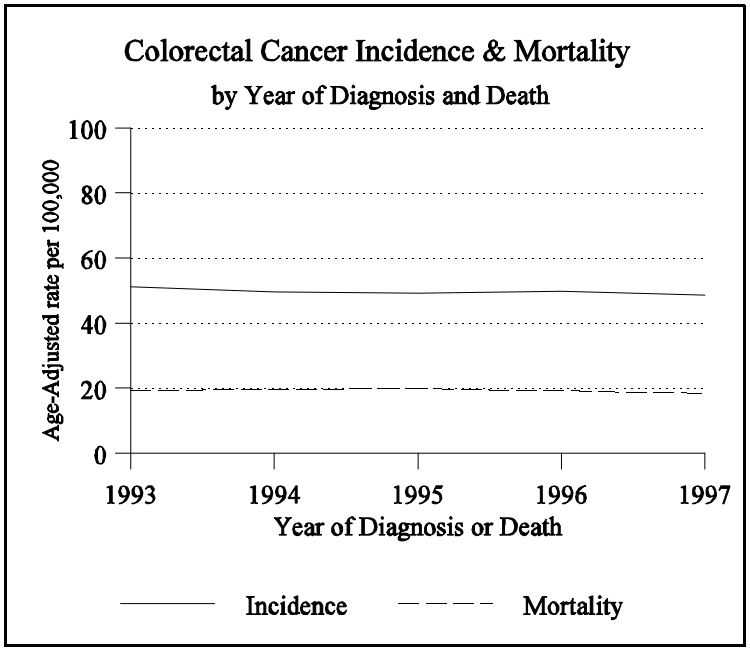
A total of 1,103 Marylanders died of colorectal cancer in 1997. Colorectal cancer accounts for 10.9% of all cancer deaths in Maryland and is the second leading cause of cancer deaths in Maryland. The 1997 age-adjusted colorectal mortality rate in Maryland is 18.5 per 100,000 population (17.4-19.6, 95% C.I.). This rate is statistically significantly higher than the 1997 U.S. colorectal cancer mortality rate of 16.4 per 100,000 population. Maryland has the 3rd highest colorectal cancer mortality rate among the states and the District of Columbia.

Table 11. Colorectal Cancer Incidence (1997) and Mortality (1997-1998) Rates by Race and Gender, Maryland and the United States

Incidence 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD New Cases (#)	2,818	1352	1,466	2,122	605	57
MD Incidence Rate	48.6	56.0	42.7	46.4	55.2	36.5
SEER Rate	43.9	52.6	37.0	43.4	51.3	-
Mortality 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	1,103	544	559	820	273	10
MD Mortality Rate	18.5	22.8	15.3	17.2	25.9	-
U.S. Rate	16.4	20.0	13.7	16.0	22.5	-
Mortality 1998	*Total*	*Males*	*Females*	*Whites*	*Blacks*	*Other*
MD Deaths (#)	1,105	525	580	826	260	19
MD Mortality Rate	18.1	21.1	15.7	17.1	22.7	-
U.S. Rate	-	-	-	-	-	-

* The 1998 U.S. mortality information is not available.

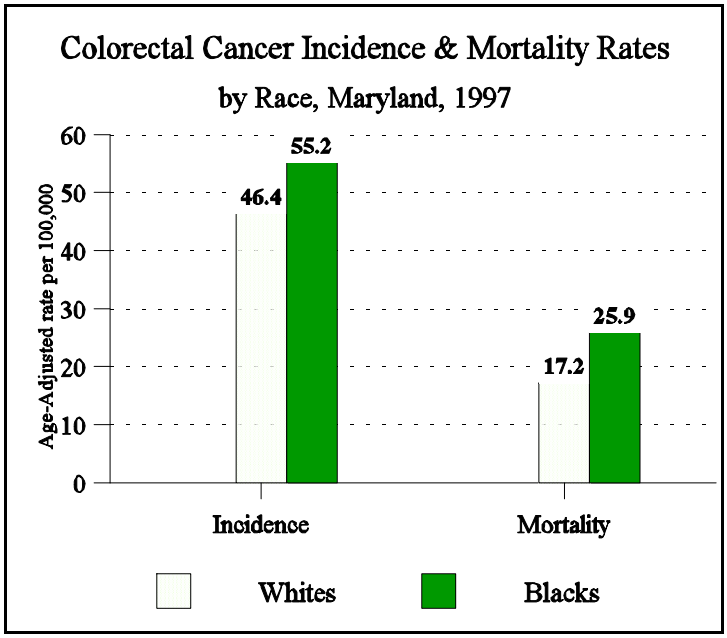
Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute



Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

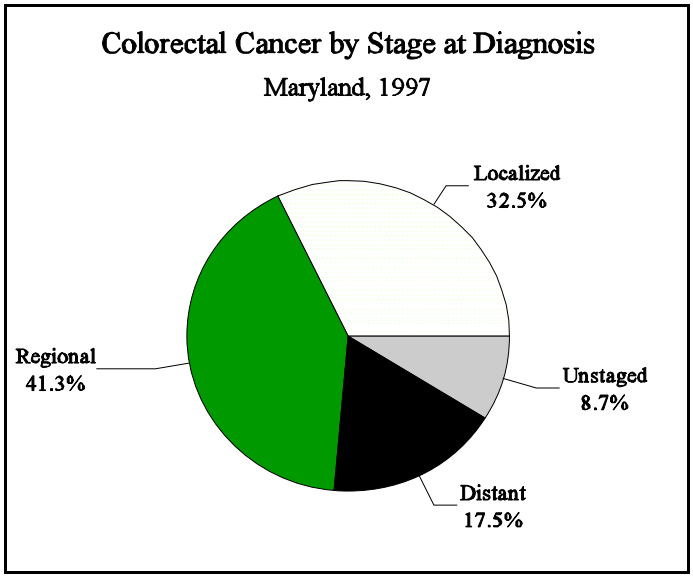
Maryland's colorectal cancer incidence and mortality rates have been decreasing. Incidence rates decreased an average of 0.87% per year from 1993 to 1997. Mortality rates have decreased an average of 1.3% per year during the same time period.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

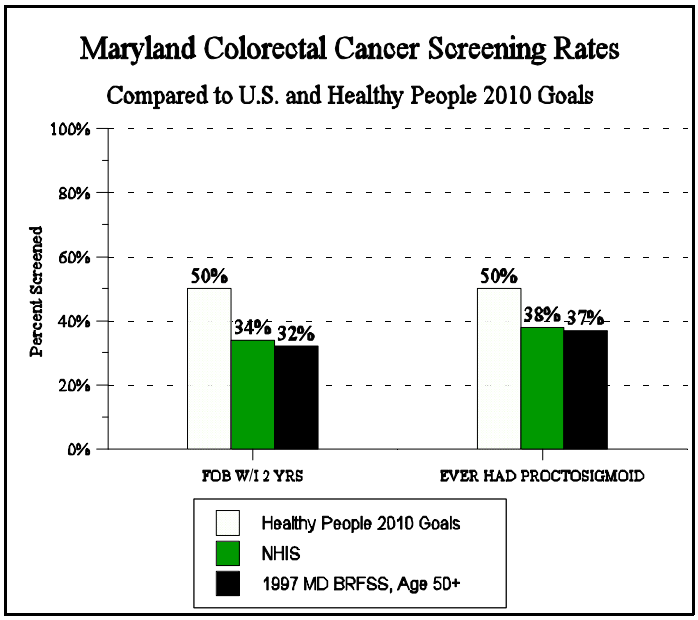
Colorectal cancer incidence and mortality rates are higher among blacks than whites.



Maryland Cancer Registry, 1997

Stage at Diagnosis

Only 32.8% of colorectal cancers in Maryland are diagnosed at the localized (early) stage.



Maryland Office of Public Health Assessment, BRFSS, 1997
National Health Interview Survey, 1998 Preliminary Data
*FOB = Fecal Occult Blood Test

Healthy People 2010 Goals

Only 32% of Marylanders aged 50 and older have had a fecal occult blood test (FOB) within the preceding 1-2 years, and only 37% have "ever" had a proctosigmoidoscopy.

The Healthy People 2010 goals are 50% for each of these tests, respectively.

Public Health Evidence (from National Cancer Institute, PDQ, 7/2000)

Screening

A randomized controlled clinical trial has shown that mortality due to colorectal cancer can be decreased 33% with annual fecal occult blood testing.

Primary Prevention

Epidemiologic studies suggest that diets high in total fat, protein, calories, alcohol and meat (both red and white meat) and low in calcium and folate are associated with an increased incidence of colorectal cancer. One randomized controlled trial demonstrated that a diet low in fat and high in fiber, fruits and vegetables did not reduce the risk of colorectal cancer recurrence during a 3-4 year period after diagnosis. Cigarette smoking is associated with an increased risk of colorectal cancer. Colonoscopy with removal of precancerous adenomatous polyps may reduce the risk of colorectal cancer.

Chemoprevention

Nonsteroidal anti-inflammatory drugs (NSAIDS), such as aspirin, may be associated with a reduced risk of colorectal cancer. The potential use of NSAIDS as a primary prevention measure is being studied. The potential preventive benefits must be balanced with the long term risks such as gastrointestinal ulceration.

Public Health Intervention for Colorectal Cancer (from National Cancer Institute, PDQ, 5/2000)

? Early detection of colorectal cancer, using fecal occult blood testing and flexible sigmoidoscopy or colonoscopy.

Table 12. Number of New Colon & Rectum Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 1997

Jurisdiction	Total	Gender		Race*			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	2,818	1,352	1,466	2,122	605	57	34
Allegany	70	34	36	66	**	0	**
Anne Arundel	217	116	101	180	26	**	s
Baltimore City	456	190	266	237	215	**	**
Baltimore County	523	264	259	449	67	**	**
Calvert	32	21	11	26	**	**	0
Caroline	30	16	14	s	**	0	0
Carroll	85	43	42	s	**	0	**
Cecil	38	24	14	s	**	0	0
Charles	43	21	22	34	9	0	0
Dorchester	35	14	21	27	8	0	0
Frederick	101	47	54	88	12	0	**
Garrett	21	7	14	20	0	0	**
Harford	91	49	42	78	12	0	**
Howard	53	22	31	45	**	**	0
Kent	6	**	**	**	**	0	0
Montgomery	393	190	203	314	44	30	**
Prince George's	346	150	196	166	162	12	6
Queen Anne's	23	13	10	s	**	0	0
Saint Mary's	41	19	22	35	**	0	**
Somerset	20	11	9	s	**	0	0
Talbot	27	11	16	s	**	0	0
Washington	91	42	49	s	**	0	0
Wicomico	35	21	14	29	**	**	0
Worcester	31	18	13	25	6	0	0
Unknown	10	**	**	**	**	**	**

* Other includes Asian and Native American.

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry, 1997

Table 13. Colorectal Cancer Age-Adjusted Incidence Rates
by Jurisdiction, Gender and Race, Maryland, 1997

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	48.6	56.0	42.7	46.4	55.2	36.5	
Allegany	52.5	68.1	39.1	51.5	**	0.0	**
Anne Arundel	46.5	56.9	37.4	44.9	46.6	**	**
Baltimore City	52.5	55.9	50.3	56.3	48.8	**	**
Baltimore County	52.3	63.4	42.8	49.0	100.6	**	**
Calvert	45.7	**	**	47.8	**	**	0.0
Caroline	67.4	**	**	76.1	**	0.0	0.0
Carroll	50.2	59.7	43.6	50.1	**	0.0	**
Cecil	42.2	**	**	43.5	**	0.0	0.0
Charles	51.7	**	**	55.9	**	0.0	0.0
Dorchester	66.3	**	**	68.0	**	0.0	0.0
Frederick	53.4	58.5	49.7	49.7	**	0.0	**
Garrett	**	**	**	**	0.0	0.0	**
Harford	45.0	53.4	37.8	42.5	**	0.0	**
Howard	30.6	**	30.5	30.7	**	**	0.0
Kent	**	**	**	**	**	0.0	0.0
Montgomery	41.6	49.9	36.3	38.6	57.8	40.7	**
Prince George's	57.2	59.3	54.9	45.6	74.2	**	**
Queen Anne's	**	**	**	**	**	0.0	0.0
Saint Mary's	52.8	**	**	55.5	**	0.0	**
Somerset	**	**	**	**	**	0.0	0.0
Talbot	42.8	**	**	**	**	0.0	0.0
Washington	50.6	55.7	45.6	51.2	**	0.0	0.0
Wicomico	36.7	**	**	38.8	**	**	0.0
Worcester	41.3	**	**	**	**	0.0	0.0
Unknown	**	**	**	**	**	**	**

Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Rgistry, 1997

Table 14. Number of Colorectal Cancer Deaths
by Jurisdiction, Gender and Race, Maryland, 1998

Jurisdiction	Total	Gender		Race*		
		Males	Females	Whites	Blacks	Other
Maryland	1,106	526	580	826	261	19
Allegany	26	15	11	26	0	0
Anne Arundel	93	51	42	78	s	**
Baltimore City	210	102	108	s	111	**
Baltimore County	190	84	106	175	s	**
Calvert	16	**	s	s	**	0
Caroline	10	**	**	s	**	0
Carroll	37	14	23	35	**	**
Cecil	16	**	s	s	**	**
Charles	20	12	8	14	**	**
Dorchester	7	**	**	**	**	0
Frederick	32	15	17	s	**	0
Garrett	10	**	s	10	0	0
Harford	36	18	18	31	**	**
Howard	26	11	15	21	**	**
Kent	**	**	**	**	0	0
Montgomery	146	71	75	122	20	**
Prince George's	140	68	72	71	67	**
Queen Anne's	8	**	**	s	**	0
Saint Mary's	14	6	8	s	**	0
Somerset	**	0	**	**	**	0
Talbot	14	s	**	s	**	0
Washington	24	11	13	24	0	0
Wicomico	9	**	**	**	**	0
Worcester	16	**	s	s	**	0

*Other includes Asian and Native Americans.

**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Division of Health Statistics

Table 15. Colorectal Cancer Age-Adjusted Mortality Rates
by Jurisdiction, Gender and Race, Maryland, 1998

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	18.2	21.3	15.6	17.0	23.2	**
Allegany	20.0	**	**	20.4	0.0	0.0
Anne Arundel	18.7	23.5	14.9	18.5	**	**
Baltimore City	25.6	32.5	20.7	24.7	26.4	**
Baltimore County	16.9	18.7	15.5	16.9	**	**
Calvert	**	**	**	**	**	0.0
Caroline	**	**	**	**	**	0.0
Carroll	21.3	**	**	20.9	**	**
Cecil	**	**	**	**	**	**
Charles	**	**	**	**	**	**
Dorchester	**	**	**	**	**	0.0
Frederick	16.5	**	**	16.6	**	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	15.9	**	**	15.6	**	**
Howard	13.0	**	**	**	**	**
Kent	**	**	**	**	0.0	0.0
Montgomery	14.2	17.9	11.1	14.0	**	**
Prince George's	21.0	24.2	18.1	17.5	27.5	**
Queen Anne's	**	**	**	**	**	0.0
Saint Mary's	**	**	**	**	**	0.0
Somerset	**	0.0	**	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	**	**	**	**	0.0	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	**	0.0

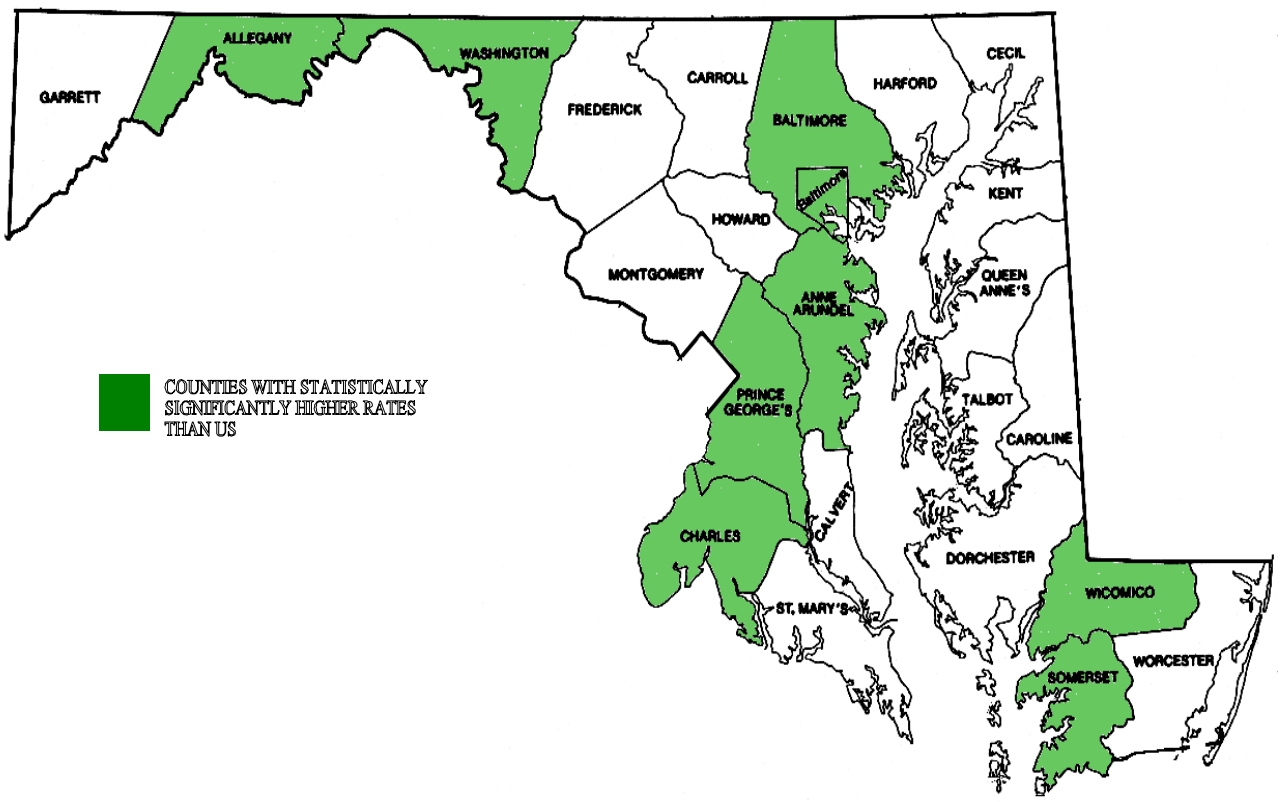
Rates are age-adjusted to 1970 Standard U.S. population and presented per 100,000 population.

* Other includes Asian and Native American.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND COLORECTAL CANCER MORTALITY RATES BY JURISDICTION
1993-1997



Rates are age-adjusted to the 1970 Standard U.S. Population and presented per 100,000 population.
County-specific rates with 95% confidence intervals are presented in Appendix E.
U.S. Overall Cancer Mortality Rate, 1993-1997: 168.8 per 100,000 population.

Maryland Division of Health Statistics, 1993-1997

D. FEMALE BREAST CANCER

Incidence (New Cases)

A total of 3,866 Maryland women were diagnosed with breast cancer in 1997. Breast cancer is the most common cancer among women (not including skin cancers). The 1997 age-adjusted female breast cancer incidence rate in Maryland is 124.2 per 100,000 population (120.2-128.4, 95% C.I.) which is statistically significantly higher than the 1997 SEER rate of 115.4 per 100,000.

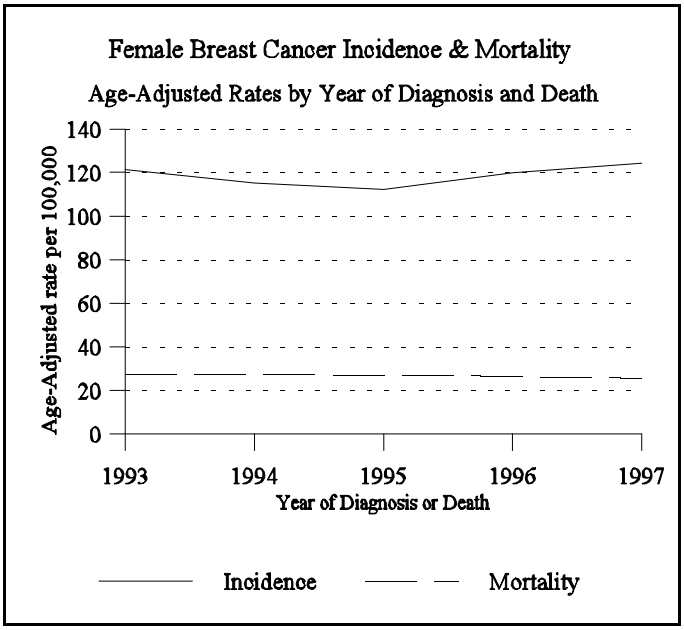
Mortality (Deaths)

A total of 823 Maryland women died of breast cancer in 1997. Breast cancer is the second leading cause of cancer deaths among women after lung cancer. Female breast cancer accounts for 8.2% of all cancer deaths in Maryland. The 1997 Maryland age-adjusted breast cancer mortality rate for women is 25.4 per 100,000 population (23.7-27.1, 95% C.I.). This rate is statistically significantly higher than the 1997 U.S. female breast cancer mortality rate of 23.3 per 100,000 population. Maryland women have the 7th highest breast cancer mortality rate among the states and the District of Columbia.

Table 16. Female Breast Cancer Incidence (1997) and Mortality (1997-1998)
Age-Adjusted Rates by Race, Maryland and the United States

Incidence 1997	*Total*	*White*	*Black*	*Other*
MD New Cases (#)	3,866	2,938	775	100
MD Incidence Rate	124.2	127.4	108.8	95.7
SEER Rate	115.4	118.4	103.0	-
Mortality 1997	*Total*	*White*	*Black*	*Other*
MD Deaths (#)	823	596	216	21
MD Mortality Rate	25.4	23.8	31.9	-
U.S. Rate	23.3	22.7	31.2	-
Mortality 1998	*Total*	*White*	*Black*	*Other*
MD Deaths (#)	826	592	227	7
MD Mortality Rate	24.7	23.3	31.8	-
U.S. Rate	-	-	-	-

* The 1998 U.S. mortality information is not available.
Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

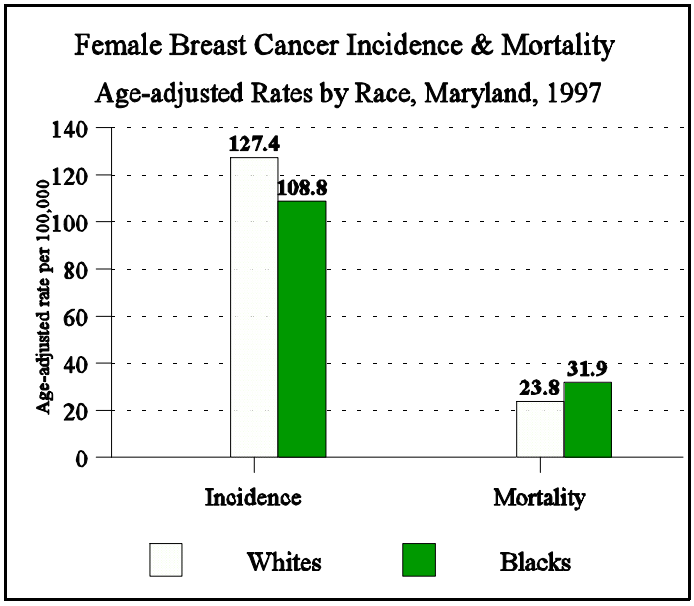


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Overall, there has been a slight increase of 0.2% annually in breast cancer incidence among Maryland women from 1993 to 1997.

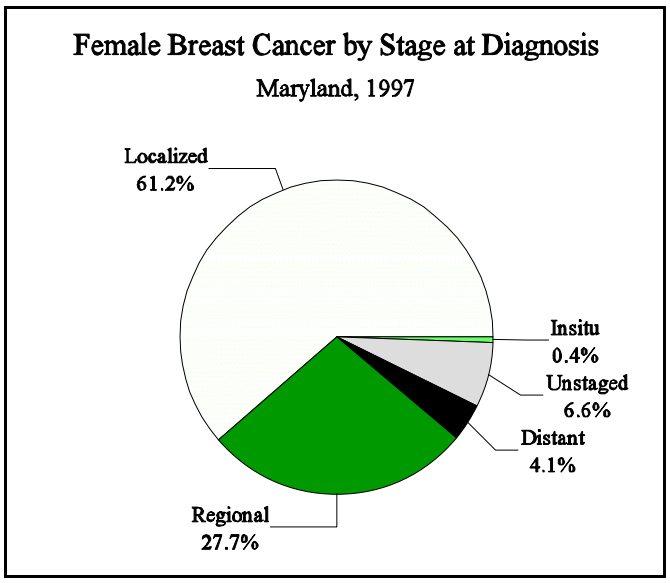
The breast cancer mortality rate among Maryland women decreased an average of 1.7% per year from 1993 to 1997.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

White women have a higher incidence of breast cancer than black women, but black women experience higher breast cancer mortality rates than white women.

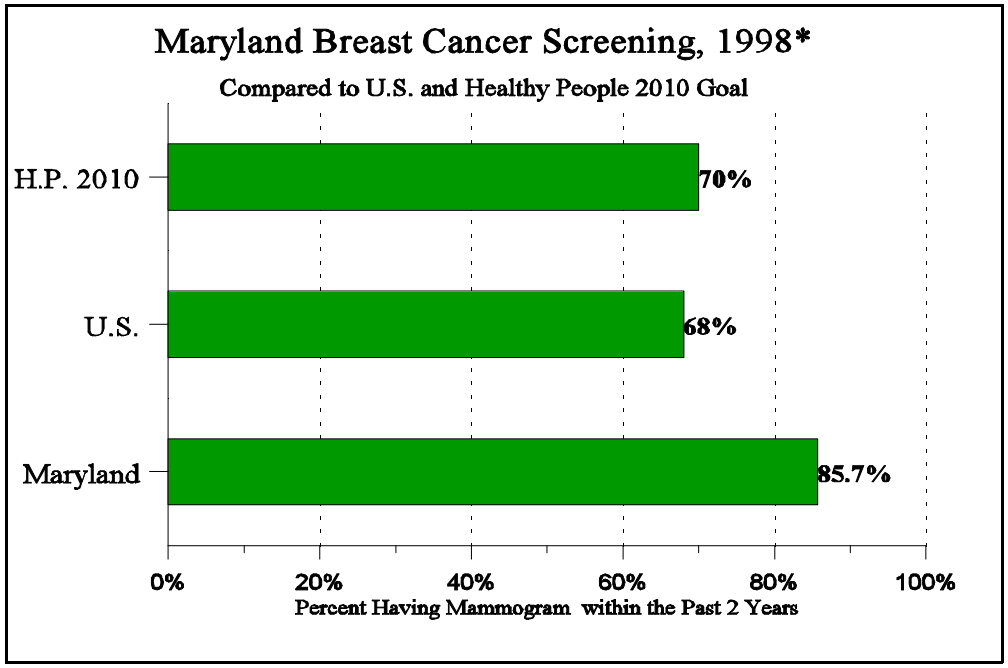


Maryland Cancer Registry, 1997

Stage of Disease at Diagnosis

Sixty-one percent (61.2%) of female breast cancers in Maryland are diagnosed at the localized (early) stage. Less than 0.5% of female breast cancers are diagnosed at the insitu (precancerous) stage.

White women are diagnosed with localized breast cancer in higher proportions than black women (64.2% as compared to 54.1%).



* Women aged 40 and Older
Maryland Office of Public Health Assessment, BRFSS, 1998
Department of Health and Human Services

Healthy People 2010 Goal

The Healthy People 2010 goal for breast cancer is to increase to 70% the proportion of women ages 40 and older who receive a mammogram within the preceding 2 years. In 1998, 86% of Maryland women 40 years and older reported receiving a mammogram within the previous two years, exceeding the Healthy People 2010 goal.

Public Health Evidence (from National Cancer Institute, PDQ, 7/2000)

Screening

Mammography, with or without clinical breast examination, has been shown in several controlled clinical trials to reduce breast cancer mortality. Clinical trials have demonstrated that mammography screening can reduce breast cancer deaths by 20-39% in women aged 50 to 74 years and about 17% in women aged 40 to 49 years. Monthly breast self examination (BSE) is frequently advocated, but there is no evidence for its effectiveness as a single modality. Two randomized trials showed that BSE alone had no effect on breast cancer diagnosis or mortality. For this reason, the focus of breast cancer education should be on the importance of mammography and clinical breast examination.

Chemoprevention

A randomized controlled trial had shown that tamoxifen lowers the risk of developing breast cancer in women who are at elevated risk of developing the disease. However, tamoxifen may also increase the risk of developing endometrial cancer, stroke, and blood clots in the veins and lungs. Women who are concerned that they may be at increased risk of developing breast cancer should talk with their doctor about whether to take tamoxifen as preventive measure. Other drugs, such as raloxifene and fenretinide are being studied for their potential usefulness as breast cancer prevention measures.

The use of hormone replacement therapy (HRT) with estrogen may be associated with increased risk of developing breast cancer. This risk may be proportionate to the duration of use and related to combination therapy. Patients considering HRT should weigh its potential effects on breast cancer risk with evidence that it reduces overall mortality.

Primary Prevention

Diet is being studied as a risk factor for breast cancer. Results from several studies suggest that women from countries/populations that consume a high fat diet have a higher breast cancer death rate that women who live in countries/populations that consume a low fat diet. It is not known if consumption of a low fat diet will prevent breast cancer. Exercise, especially in young women, may decrease hormone levels and contribute to a decrease risk of breast cancer. Exposure to alcohol may be associated with increased breast cancer risk, but evidence from epidemiological studies is conflicting.

Public Health Intervention for Breast Cancer (from National Cancer Institute, PDQ, 6/2000)

? Early detection of breast cancer, using mammography and a clinical breast examination by a health care professional.

Table 17. Number of New Female Breast Cancer Cases by Jurisdiction and Race, Maryland, 1997					
Jurisdiction	Total	Race*			
		Whites	Blacks	Other	Unknown
Maryland	3,866	2,938	775	100	53
Allegany	60	s	**	0	0
Anne Arundel	397	339	48	**	**
Baltimore City	509	273	230	**	**
Baltimore County	646	540	90	10	6
Calvert	54	45	8	0	**
Caroline	28	s	**	0	0
Carroll	134	131	**	**	0
Cecil	51	51	0	0	0
Charles	56	44	9	**	**
Dorchester	33	25	8	0	0
Frederick	118	108	8	0	**
Garrett	23	20	0	**	**
Harford	108	s	**	0	0
Howard	142	119	21	**	**
Kent	18	s	**	0	0
Montgomery	696	553	81	39	23
Prince George's	442	186	226	23	7
Queen Anne's	35	30	**	0	**
Saint Mary's	46	36	**	**	0
Somerset	22	17	**	**	0
Talbot	42	37	**	**	0
Washington	83	s	0	**	0
Wicomico	68	s	8	**	0
Worcester	46	s	**	0	0
Unknown	13	**	**	**	**
*Other includes Asian and Native American.					
** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.					
s = Number was supressed to ensure confidentiality of cell in other column.					
Source: Maryland Cancer Registry, 1997					

Table 18. Female Breast Cancer Age-Adjusted Incidence Rates by Jurisdiction and Race, Maryland, 1997					
Jurisdiction	Total	Race			
		Whites	Blacks	Other	Unknown
Maryland	124.2	127.4	108.8	95.7	**
Allegany	89.6	89.5	**	0.0	0.0
Anne Arundel	151.9	153.7	145.8	**	**
Baltimore City	113.7	157.9	88.1	**	**
Baltimore County	123.4	116.8	196.7	**	**
Calvert	147.3	163.4	**	0.0	**
Caroline	150.1	**	**	0.0	0.0
Carroll	157.7	158.4	**	**	0.0
Cecil	112.7	119.3	**	0.0	0.0
Charles	109.3	112.0	**	**	**
Dorchester	143.1	**	**	0.0	0.0
Frederick	115.5	113.9	**	0.0	**
Garrett	**	**	**	**	**
Harford	96.0	103.3	**	0.0	0.0
Howard	131.4	143.0	**	**	**
Kent	**	**	**	0.0	0.0
Montgomery	137.4	137.4	133.4	86.7	**
Prince George's	114.4	98.0	129.9	**	**
Queen Anne's	134.3	138.9	**	0.0	**
Saint Mary's	110.3	105.5	**	**	0.0
Somerset	**	**	**	**	0.0
Talbot	131.2	145.7	**	**	0.0
Washington	91.3	93.1	**	**	0.0
Wicomico	131.3	145.4	**	**	0.0
Worcester	133.0	157.2	**	0.0	0.0
Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.					
** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.					
Source: Maryland Cancer Registry					

Table 19. Number of Female Breast Cancer Deaths by Jurisdiction and Race, Maryland, 1998				
Jurisdiction	Total	Race*		
		Whites	Blacks	Other
Maryland	826	592	227	7
Allegany	9	9	0	0
Anne Arundel	63	51	12	0
Baltimore City	143	61	82	0
Baltimore County	137	124	13	0
Calvert	**	**	**	0
Caroline	**	**	0	0
Carroll	18	s	**	0
Cecil	20	s	**	0
Charles	12	7	**	0
Dorchester	9	s	**	0
Frederick	21	18	**	**
Garrett	**	**	0	0
Harford	30	s	**	0
Howard	29	22	7	0
Kent	**	**	**	0
Montgomery	125	106	s	**
Prince George's	117	s	72	**
Queen Anne's	7	7	0	0
Saint Mary's	11	s	**	0
Somerset	**	**	**	0
Talbot	7	s	**	0
Washington	24	24	0	0
Wicomico	16	s	**	0
Worcester	10	10	0	0
*Other includes Asian and Native American. There were no deaths with unknown race in 1998.				
**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.				
s=Number was supressed to ensure confidentiality of cell in other column.				
Source: Maryland Division of Health Statistics				

Table 20. Female Breast Cancer Age-Adjusted Mortality Rates by Jurisdiction and Race, Maryland, 1998				
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	24.7	23.1	32.1	**
Allegany	**	**	0.0	0.0
Anne Arundel	23.8	23.5	**	0.0
Baltimore City	30.2	27.4	32.0	0.0
Baltimore County	22.8	23.2	**	0.0
Calvert	**	**	**	0.0
Caroline	**	**	0.0	0.0
Carroll	**	**	**	0.0
Cecil	**	**	**	0.0
Charles	**	**	**	0.0
Dorchester	**	**	**	0.0
Frederick	**	**	**	**
Garrett	**	**	0.0	0.0
Harford	24.5	**	**	0.0
Howard	29.0	**	**	0.0
Kent	**	**	**	0.0
Montgomery	21.6	22.2	**	**
Prince George's	28.4	19.5	39.4	**
Queen Anne's	**	**	0.0	0.0
Saint Mary's	**	**	**	0.0
Somerset	**	**	**	0.0
Talbot	**	**	**	0.0
Washington	**	**	0.0	0.0
Wicomico	**	**	**	0.0
Worcester	**	**	0.0	0.0

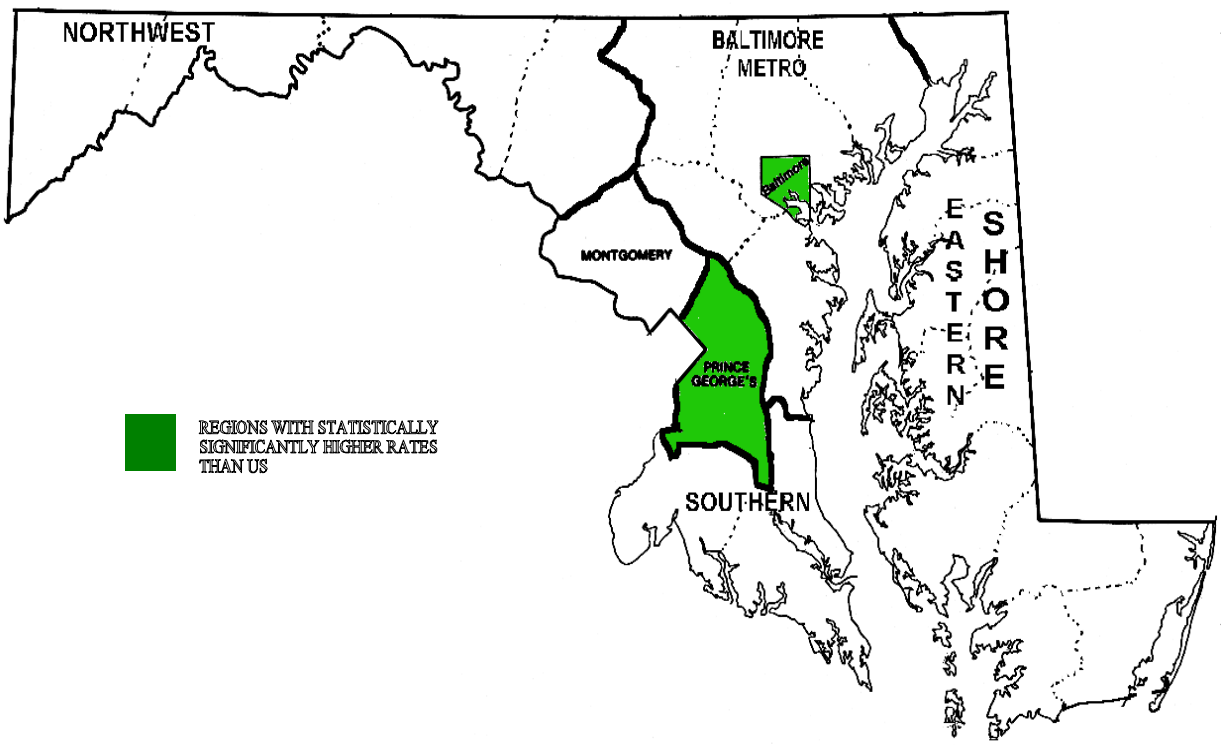
Rates are age-adjusted to 1970 U.S. population and presented per 100,000 population.

* Other includes Asian and Native American.

**Rates based on cells with 25 or less cases are not presented as per MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND FEMALE BREAST CANCER MORTALITY RATES BY REGION
1993-1997



Rates are per 100,000 and age-adjusted to the 1970 U.S. population
U.S. Female Breast Cancer Mortality Rate, 1993-1997: 24.8 per 100,000

Baltimore Metro Rate excludes Baltimore City.

Rates cannot be shown for individual jurisdictions in the Southern Region, the Eastern Shore, the Baltimore Metro Region and the Northwest Region because the number of cases in each of the jurisdictions is less than 26 cases and, therefore, not reliable. Regional rates with 95% confidence intervals are presented in Appendix E.

E. PROSTATE CANCER

Incidence (New Cases)

A total of 3,746 cases of prostate cancer were diagnosed among Maryland men during 1997. Prostate cancer is the most common cancer among men (excluding skin cancer). The 1997 age-adjusted prostate cancer incidence rate in Maryland is 159.9 per 100,000 population (154.8-165.1, 95% CI), which is statistically significantly higher than the 1997 SEER prostate cancer incidence rate of 139.1 per 100,000.

The incidence of prostate cancer increases with age; more than 75% of all prostate cancers are diagnosed among men over the age of 65.

Mortality (Deaths)

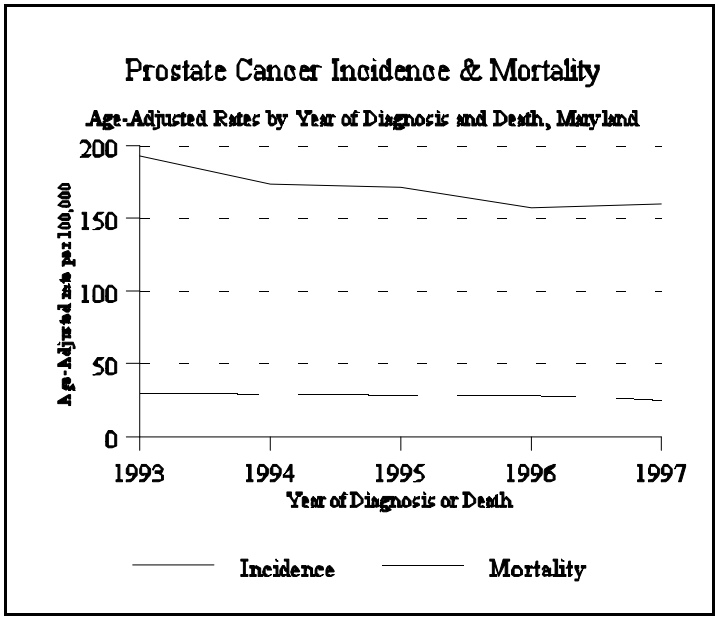
Prostate cancer is the second leading cause of cancer death among males. There were 602 prostate cancer deaths among Maryland men in 1997. The 1997 age-adjusted prostate cancer mortality rate in Maryland is 25.3 per 100,000 population (23.3-27.4, 95% C.I.). This rate is statistically significantly higher than the 1997 U.S. prostate cancer mortality rate of 22.5 per 100,000 population. Maryland is ranked 9th in prostate cancer mortality among the States and the District of Columbia.

Table 21. Prostate Cancer Incidence (1997) and Mortality (1997-1998)
Number of Cases/Deaths and Age-Adjusted Rates by Race
Maryland and the United States

Incidence 1997	*Total*	*White*	*Black*
MD New Cases (#)	3,746	2,465	911
MD Incidence Rate	159.9	133.9	209.4
SEER Rate	139.1	132.6	214.6
Mortality 1997	*Total*	*White*	*Black*
MD Deaths (#)	602	368	231
MD Mortality Rate	25.3	19.0	59.7
U.S. Rate	22.5	20.6	49.9
Mortality 1998	*Total*	*White*	*Black*
MD Deaths (#)	599	407	188
MD Mortality Rate	24.2	20.4	46.0
U.S. Rate	-	-	-

* The 1998 U.S. mortality information is not available.

Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

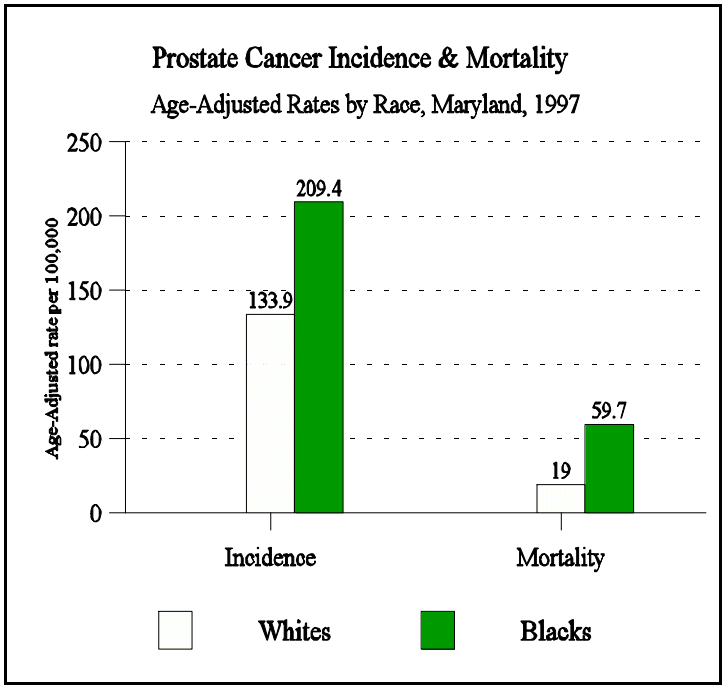


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Overall, prostate cancer incidence rates in Maryland have decreased an average of 5.3% per year from 1993 through 1997.

Prostate cancer mortality rates decreased an average of 6.2% among white men in Maryland from 1993 to 1997, and *increased* an average of 4.0% among black men during the same time period.

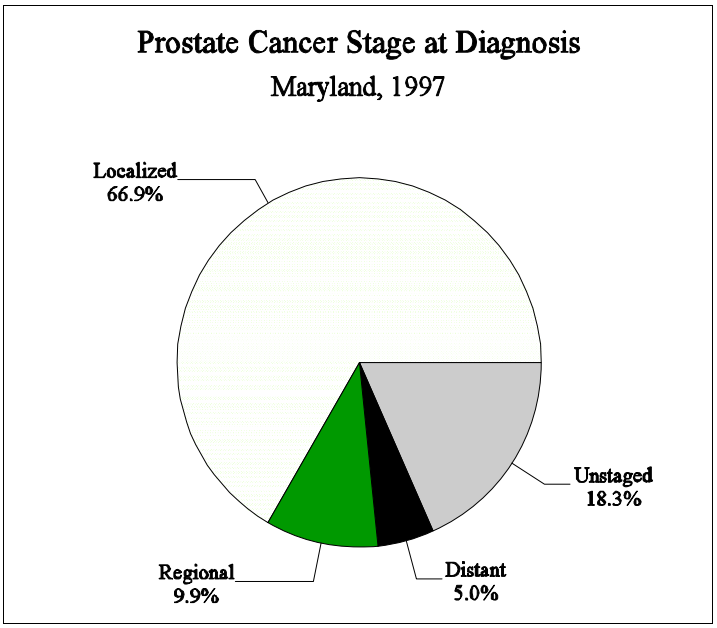


Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

Prostate cancer incidence rates are statistically significantly higher in black men than in white men.

Prostate cancer mortality rates among black men are over 3 times as high as the rates in white men.

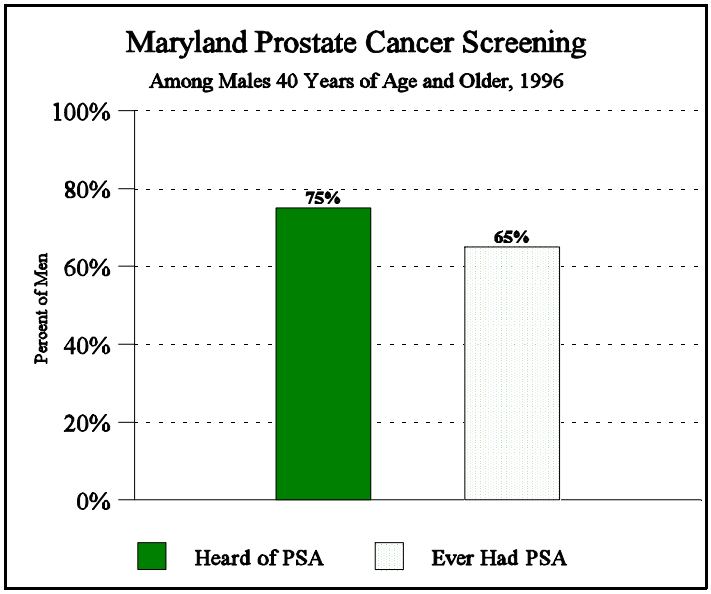


Maryland Cancer Registry, 1997

Stage at Diagnosis

Sixty-seven percent of Maryland's 1997 prostate cancers were diagnosed at the localized (early) stage.

Maryland blacks have twice the percentage of cases with distant stage of prostate cancer than whites (8.5% vs. 4.2%).



Maryland Office of Public Health Assessment, BRFSS, 1996
No comparable national data available.
There are no Healthy People 2010 prostate cancer screening guidelines.

Healthy People 2010 Goals

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

Sixty-five percent of Maryland men 40 years of age and older reported that they have "ever" had a prostate specific antigen (PSA) test in 1996.

Public Health Evidence (from National Cancer Institute, PDQ, 6/2000)

Screening

Digital rectal examination (DRE) and the prostate specific antigen (PSA) test are two commonly used methods of detecting prostate cancer. There is currently insufficient evidence to establish whether screening by DRE or PSA results in a decrease in mortality due to prostate cancer. Clinical trials investigating the benefit of DRE and PSA are underway, with results expected in the early 21st century. Several treatment alternatives are available for prostate cancer, but they carry the potential risk of impotence and incontinence. Efforts aimed at reducing mortality through screening and treatment remain controversial because of the uncertain benefits of screening and the potential risks of treatment (Healthy People 2010, Prostate chapter).

Primary Prevention

A diet high in fat, especially animal fat, may be associated with an increased risk of prostate cancer. It is not known whether modifying one's diet by eating low fat, plant-based diet will reduce prostate cancer risk.

Chemoprevention

Several agents such as alpha-tocopherol, selenium, difluoromethylornithine, isoflavonoids and vitamins D and E have shown potential in clinical and laboratory studies for the chemoprevention of prostate cancer, but further studies are needed to confirm this potential.

Public Health Intervention for Prostate Cancer

? "Widespread prostate cancer screening should be approached with caution until the results of clinical trials provide evidence that screening does more good than harm."(Healthy People 2010 Report).

Table 22. Number of New Prostate Cancer Cases by Race and Jurisdiction, Maryland, 1997					
Jurisdiction	Total	Race*			
		Whites	Blacks	Other	Unknown
Maryland	3,746	2,465	911	89	281
Allegany	76	72	**	**	**
Anne Arundel	315	249	30	**	s
Baltimore City	509	201	283	**	s
Baltimore County	653	486	114	9	44
Calvert	35	23	9	**	**
Caroline	31	22	s	**	0
Carroll	95	82	**	**	9
Cecil	48	37	**	**	6
Charles	84	58	21	**	**
Dorchester	32	19	s	0	**
Frederick	105	69	9	**	s
Garrett	17	17	0	0	0
Harford	129	105	14	**	s
Howard	112	74	17	**	s
Kent	23	10	**	**	7
Montgomery	628	483	79	26	40
Prince George's	488	172	254	18	44
Queen Anne's	25	22	**	0	**
Saint Mary's	43	32	11	0	0
Somerset	24	15	9	0	0
Talbot	49	43	6	0	0
Washington	87	82	**	0	**
Wicomico	57	46	9	**	**
Worcester	42	35	**	0	**
Unknown	39	11	**	6	s

*Other includes Asian and Native American.

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry, 1997

Table 23. Prostate Cancer Age-Adjusted Incidence Rates by Jurisdiction and Race, Maryland, 1997				
Jurisdiction	Total	Race		
		Whites	Blacks	Other
Maryland	159.9	133.9	209.4	145.2
Allegany	150.0	144.9	**	**
Anne Arundel	156.8	144.5	125.3	**
Baltimore City	152.5	127.6	162.0	**
Baltimore County	154.9	126.2	416.7	**
Calvert	117.9	**	**	**
Caroline	186.5	**	**	**
Carroll	146.1	130.3	**	**
Cecil	118.4	96.9	**	**
Charles	222.9	203.2	**	**
Dorchester	151.8	**	**	0.0
Frederick	138.9	99.1	**	**
Garrett	**	**	0.0	0.0
Harford	150.6	134.2	**	**
Howard	149.9	118.8	**	**
Kent	**	**	**	**
Montgomery	172.3	157.7	300.8	89.5
Prince George's	198.3	118.7	292.5	**
Queen Anne's	**	**	**	0.0
Saint Mary's	121.0	112.1	**	0.0
Somerset	**	**	**	0.0
Talbot	182.5	198.1	**	0.0
Washington	119.4	116.2	**	0.0
Wicomico	137.8	145.5	**	**
Worcester	139.8	152.3	**	0.0

Rates are age-adjusted to the 1970 U.S. Population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Registry, 1997

Table 24. Number of Prostate Cancer Deaths by Jurisdiction and Race, Maryland, 1998			
Jurisdiction	Total	Race*	
		Whites	Blacks
Maryland	599	407	188
Allegany	6	6	0
Anne Arundel	52	s	**
Baltimore City	106	30	76
Baltimore County	97	84	13
Calvert	9	s	**
Caroline	**	**	0
Carroll	11	s	**
Cecil	16	s	**
Charles	16	s	**
Dorchester	10	**	**
Frederick	19	s	**
Garrett	0	0	0
Harford	23	s	**
Howard	23	16	6
Kent	**	**	**
Montgomery	78	62	13
Prince George's	72	25	47
Queen Anne's	**	**	0
Saint Mary's	**	**	**
Somerset	**	0	**
Talbot	**	**	0
Washington	23	s	**
Wicomico	9	s	**
Worcester	8	**	**

*There were less than 6 deaths from prostate cancer among other races in 1998.

**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Division of Health Statistics

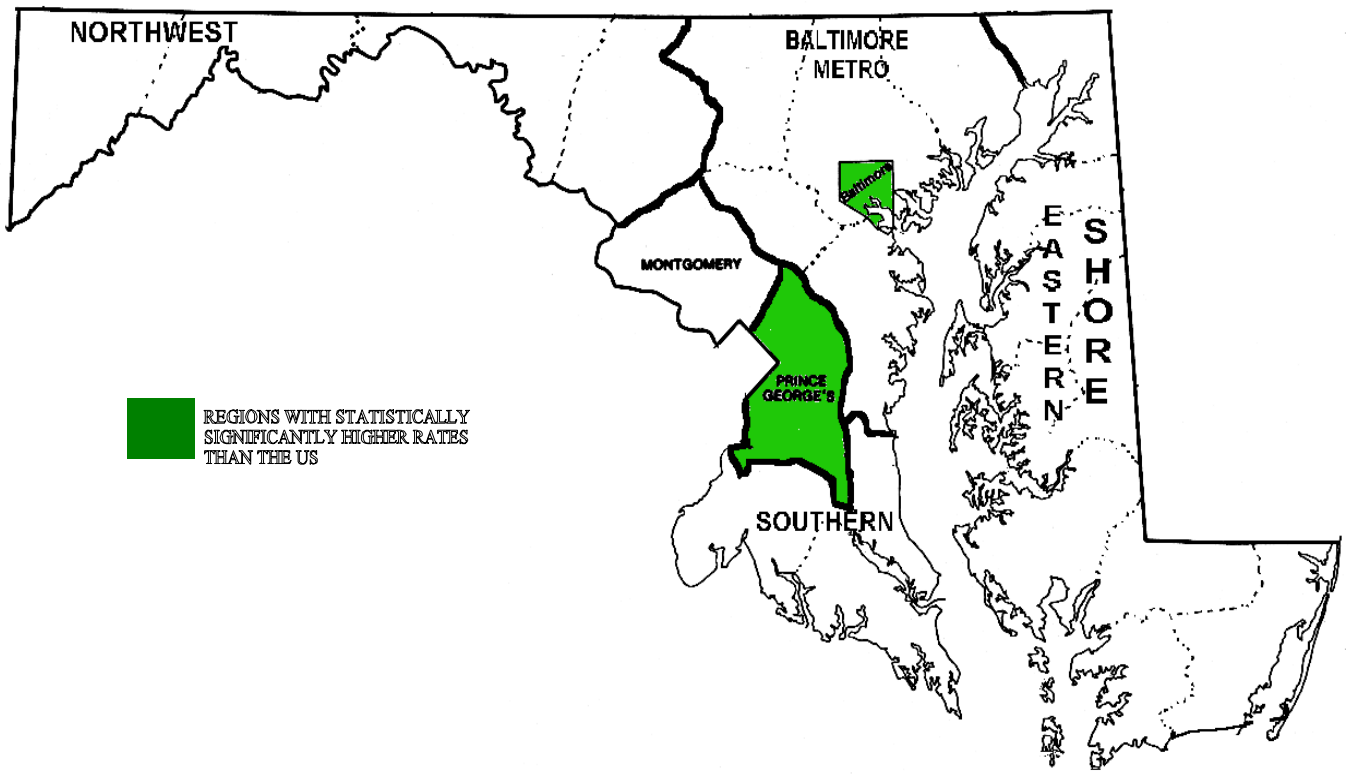
Table 25. Prostate Cancer Age-Adjusted Mortality Rates by Jurisdiction and Race, Maryland, 1998			
Jurisdiction	Total	Race	
		Whites	Blacks
Maryland	24.4	20.3	47.0
Allegany	**	**	0.0
Anne Arundel	27.1	28.6	**
Baltimore City	32.0	16.1	49.4
Baltimore County	21.2	19.9	**
Calvert	**	**	**
Caroline	**	**	0.0
Carroll	**	**	**
Cecil	**	**	**
Charles	**	**	**
Dorchester	**	**	**
Frederick	**	**	**
Garrett	0.0	0.0	0.0
Harford	**	**	**
Howard	**	**	**
Kent	**	**	**
Montgomery	18.6	16.8	**
Prince George's	29.4	**	65.6
Queen Anne's	**	**	0.0
Saint Mary's	**	**	**
Somerset	**	0.0	**
Talbot	**	**	0.0
Washington	**	**	**
Wicomico	**	**	**
Worcester	**	**	**

Rates are age-adjusted to 1970 Standard U.S. population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND PROSTATE CANCER MORTALITY RATES BY REGION
1993-1997



Rates are per 100,000 and age-adjusted to the 1970 U.S. population.
U.S. Prostate Cancer Mortality Rate, 1993-1997: 24.8 per 100,000

Baltimore Metro Rate excludes Baltimore City.

Rates cannot be shown for individual jurisdictions in the Southern Region, the Eastern Shore, the Baltimore Metro Region and the Northwest Region because the number of cases in each of the jurisdictions is less than 26 cases and, therefore, not reliable. Regional rates with 95% confidence intervals are presented in Appendix E.

F. ORAL CANCER

Incidence (New Cases)

A total of 562 Marylanders were diagnosed with cancers of the oral cavity and pharynx (hereinafter called oral cancer) in 1997. The 1997 age-adjusted oral cancer incidence rate for Maryland is 10.2 per 100,000 population (9.4-11.1, 95% C.I.), which is similar to the 1997 SEER rate of 9.7 per 100,000. The risk of developing oral cancer increases after age 40.

Mortality (Deaths)

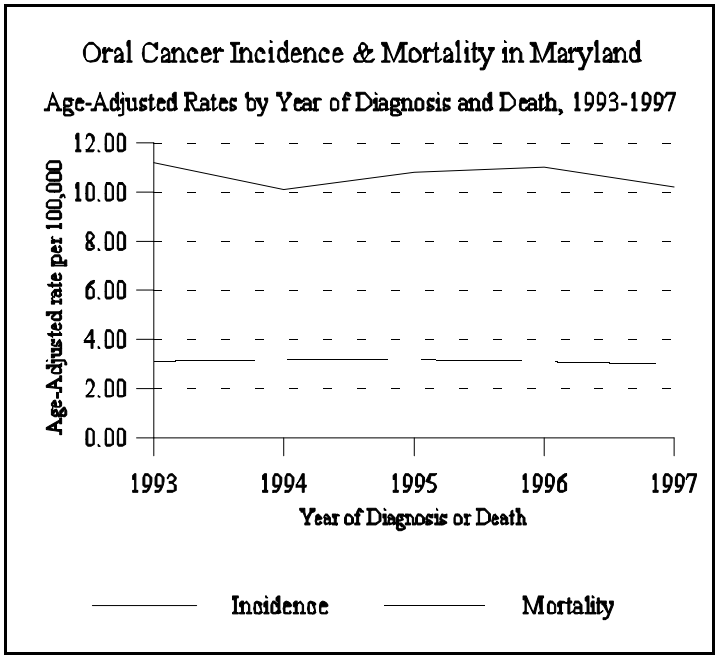
A total of 174 Marylanders died of oral cancer in 1997. The 1997 age-adjusted oral cancer mortality rate in Maryland is 3.0 per 100,000 population (2.6-3.5, 95% C.I.). This rate is higher than the 1997 U.S. oral cancer mortality rate of 2.5 per 100,000 population. Maryland is 7th among the states and the District of Columbia in oral cancer mortality.

Table 26. Oral Cancer Incidence (1997) and Mortality (1997-1998)
Age-Adjusted Rates by Gender and Race*, Maryland and the United States

Incidence 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD New Cases (#)	562	358	204	404	132
Incidence Rate	10.2	14.6	6.7	9.5	11.4
SEER Rate	9.7	14.5	5.6	9.5	10.4
Mortality 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD Deaths (#)	174	122	52	125	47
MD Mortality Rate	3.0	5.1	1.5	2.8	4.1
U.S. Rate	2.5	3.8	1.4	2.3	4.1
Mortality 1998	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD Deaths (#)	144	94	50	98	42
MD Mortality Rate	2.5	3.8	1.5	2.2	3.7
U.S. Rate	-	-	-	-	-

* The 1998 U.S. mortality information is not available.

Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

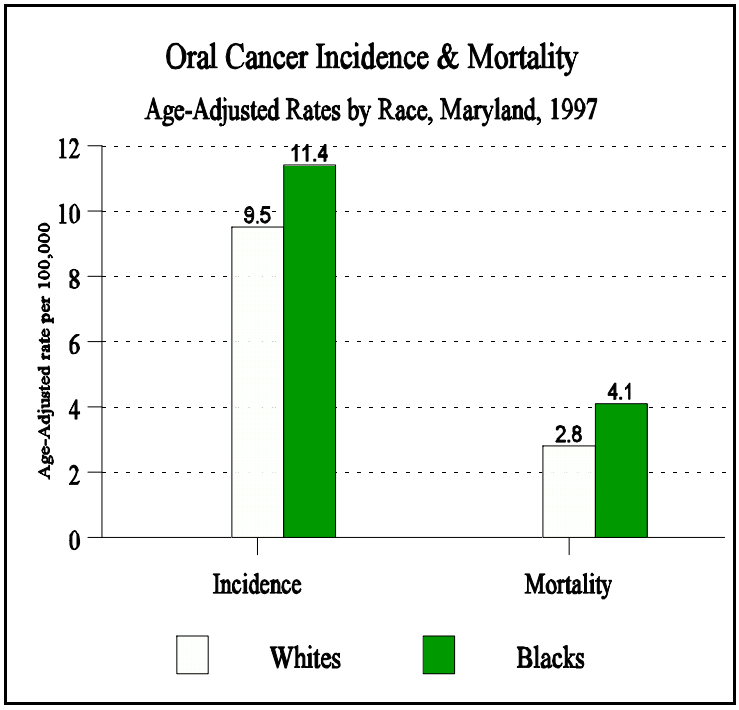


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

The incidence of oral cancer in Maryland has decreased an average of 0.9% per year from 1993 to 1997.

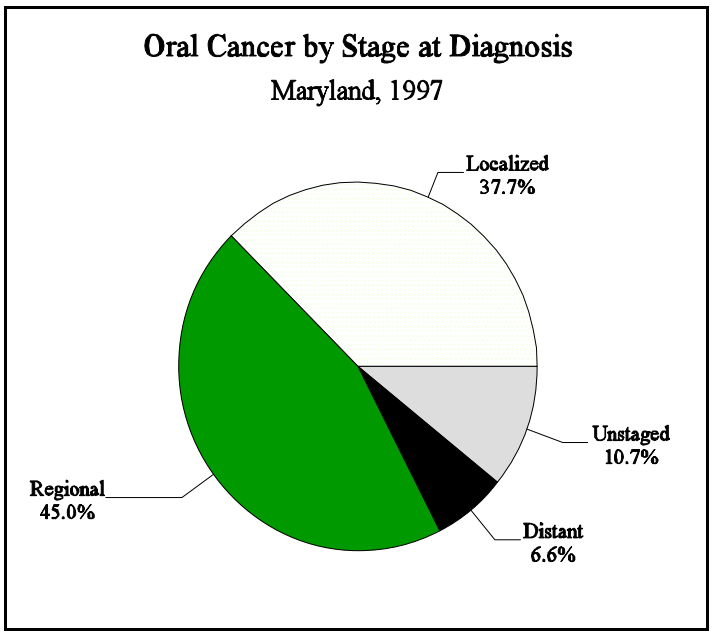
Oral cancer mortality rates decreased an average of 1.0% per year from 1993-1997.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

Blacks experience higher oral cancer incidence and mortality than whites.



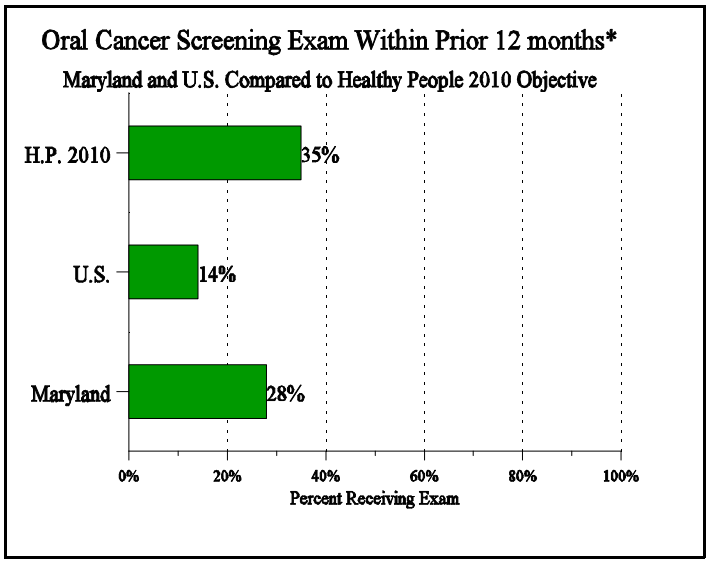
Maryland Cancer Registry, 1997

Stage of Disease at Diagnosis

Thirty-eight percent of oral cancers were diagnosed at the local stage in 1997.

The Healthy People 2010 objective is to increase to 50% the proportion of oral cancers that are detected at the early, localized stage.

Whites are diagnosed with oral cancer at the localized (early) stage in higher proportions than blacks (41.3% v.s. 31.8%).



* Adults 40 years of age and older.
Maryland Office of Oral Health, 1998
U.S. NHIS, 1998 (Preliminary data)

Healthy People 2010 Objective

The Healthy People 2010 objective for oral cancer screening is to increase to 35% the proportion of adults aged 40 and older who report having an examination to detect oral cancer.

Maryland has a higher proportion of adults over the age of 40 who report having an oral cancer screening exam within the prior 12 months than the U.S. (28% v.s. 14%) but does not meet the Healthy People 2010 objective of 35%.

Public Health Evidence

There is extensive evidence that tobacco use (including cigarettes, cigars, pipes and smokeless tobacco) causes oral cancer. Tobacco use is responsible for more than 90% or oral cancer-related deaths in males. The combined use of tobacco and alcohol increases the risks for oral cancer. Avoiding or stopping the use of tobacco will decrease the risk of oral cancer. (National Cancer Institute, PDQ, 4/2000)

Screening for oral cancer is easy, inexpensive, and noninvasive. Screening may be done by a health professional and involves inspecting the face, head and neck, lips, labial and buccal mucosa, gingival tissue, tongue, floor of mouth, and hard and soft palate. Currently, the majority of oral cancers in Maryland are detected at more advanced stages which have a poorer prognosis. Routine oral cancer examinations have been shown to lead to the increased detection of early, localized cancers which have a higher level of survival. However, no clinical trial has been conducted to determine whether oral cancer screening reduces mortality. For this reason, there is insufficient evidence to establish whether screening will result in a decrease in mortality from oral cancer.

Public Health Intervention for Oral Cancer

- Avoidance and cessation of tobacco use.
- Early detection of oral cancer targeted to high risk individuals over age 40 with low socioeconomic background and/or no medical and/or dental health insurance.

Table 27. Number of New Oral Cancer Cases
by Jurisdiction, Gender and Race, Maryland, 1998

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	562	358	204	404	132	12	14
Allegany	10	s	**	10	0	0	0
Anne Arundel	45	24	21	37	s	**	0
Baltimore City	104	68	36	39	62	**	**
Baltimore County	91	56	35	71	17	**	**
Calvert	10	7	**	8	**	0	**
Caroline	**	**	0	**	**	0	0
Carroll	17	13	**	17	0	0	0
Cecil	9	7	**	9	0	0	0
Charles	8	7	**	s	**	0	0
Dorchester	7	**	**	s	0	**	0
Frederick	12	8	**	12	0	0	0
Garrett	**	0	**	**	0	0	0
Harford	17	9	8	s	**	0	0
Howard	10	**	**	7	**	0	**
Kent	**	**	**	**	0	0	0
Montgomery	80	46	34	63	7	**	**
Prince George's	62	42	20	33	25	**	**
Queen Anne's	**	**	**	**	**	0	0
Saint Mary's	11	11	0	s	**	0	0
Somerset	**	**	0	**	**	0	0
Talbot	12	8	**	s	**	0	0
Washington	20	s	**	s	**	0	0
Wicomico	**	**	**	**	0	0	0
Worcester	11	7	**	s	**	0	0
Unknown	7			**	0	**	**

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry

Table 28. Oral Cancer Age-Adjusted Incidence Rates by Jurisdiction, Gender and Race, Maryland, 1997						
Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Others
Maryland	10.2	14.6	6.7	9.5	11.4	**
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	10.0	**	**	9.4	**	**
Baltimore City	13.8	21.2	8.4	11.8	14.5	**
Baltimore County	9.8	13.6	6.8	8.4	**	**
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
Harford	**	**	**	**	**	0.0
Howard	**	**	**	**	**	0.0
Kent	**	**	**	**	0.0	0.0
Montgomery	9.0	12.0	6.5	8.6	**	**
Prince George's	9.6	14.2	**	9.5	**	**
Queen Anne's	**	**	**	**	**	0.0
Saint Mary's	**	**	0.0	**	**	0.0
Somerset	**	**	0.0	**	**	0.0
Talbot	**	**	**	**	**	0.0
Washington	**	**	**	**	**	0.0
Wicomico	**	**	**	**	0.0	0.0
Worcester	**	**	**	**	**	0.0

Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Registry

Table 29. Number of Oral Cancer Deaths by Jurisdiction, Gender and Race, Maryland, 1998					
Jurisdiction	Total	Gender		Race	
		Males	Females	Whites	Blacks
Maryland	144	94	50	98	46
Allegany	**	**	0	**	0
Anne Arundel	14	s	**	s	**
Baltimore City	42	33	9	17	24
Baltimore County	19	8	11	s	**
Calvert	**	**	**	**	**
Caroline	0	0	0	0	0
Carroll	0	0	0	0	0
Cecil	**	**	**	**	0
Charles	**	**	**	**	0
Dorchester	0	0	0	0	0
Frederick	**	**	**	**	0
Garrett	0	0	0	0	0
Harford	6	**	**	6	0
Howard	**	**	**	**	**
Kent	**	**	0	**	0
Montgomery	9	s	**	s	**
Prince George's	18	s	**	8	8
Queen Anne's	0	0	0	0	0
Saint Mary's	**	0	**	**	0
Somerset	0	0	0	0	0
Talbot	**	0	**	**	0
Washington	7	**	**	s	**
Wicomico	**	**	**	**	**
Worcester	**	**	**	**	0

* There were less than 6 deaths from oral cancer among other races in 1998.

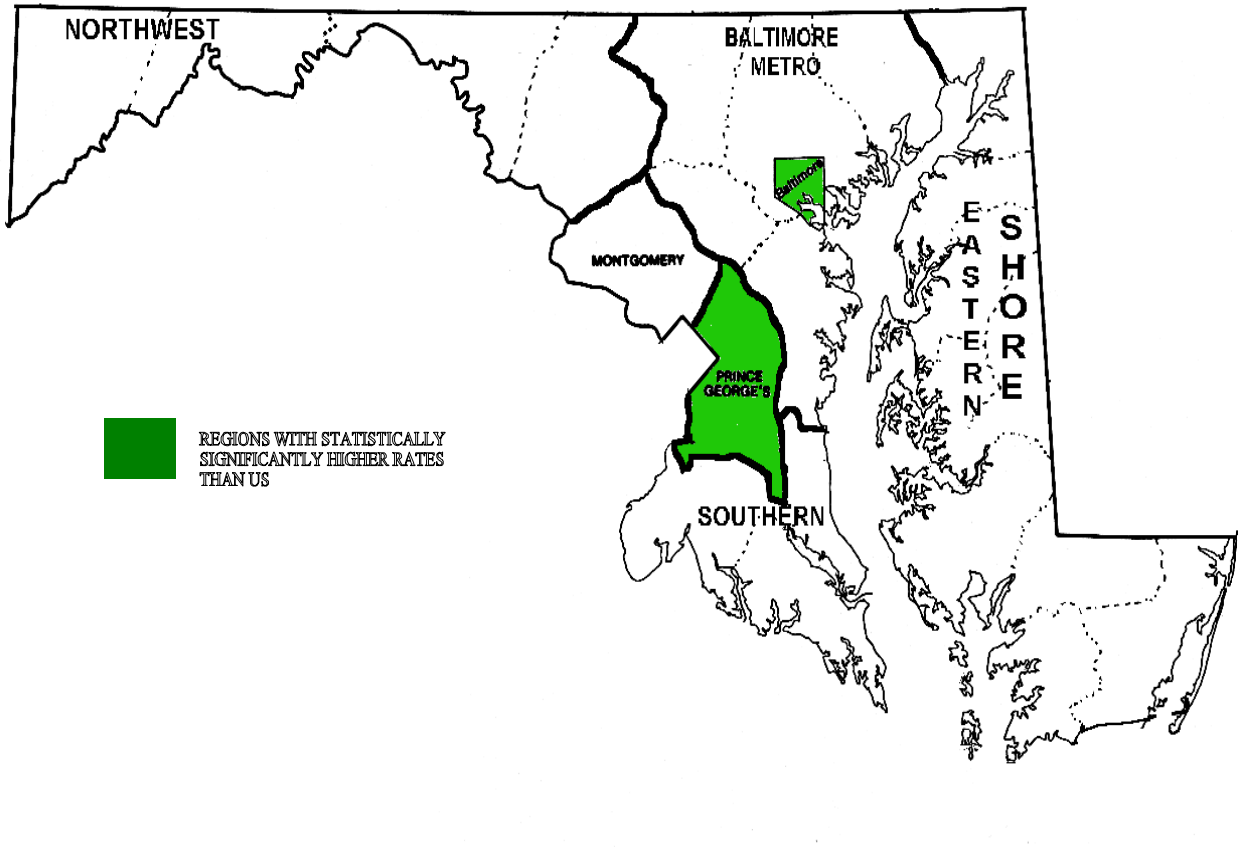
**Cells with less than 6 deaths are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Division of Health Statistics

Table 30. Oral Cancer Age-Adjusted Mortality Rates by Jurisdiction, Gender and Race, Maryland, 1998					
Jurisdiction	Total	Gender		Race	
		Males	Females	Whites	Blacks
Maryland	2.5	3.8	1.5	2.2	3.7
Allegany	**	**	0.0	**	0.0
Anne Arundel	**	**	**	**	**
Baltimore City	5.5	10.7	**	**	**
Baltimore County	**	**	**	**	**
Calvert	**	**	**	**	**
Caroline	0.0	0.0	0.0	0.0	0.0
Carroll	0.0	0.0	0.0	0.0	0.0
Cecil	**	**	**	**	0.0
Charles	**	**	**	**	0.0
Dorchester	0.0	0.0	0.0	0.0	0.0
Frederick	**	**	**	**	0.0
Garrett	0.0	0.0	0.0	0.0	0.0
Harford	**	**	**	**	0.0
Howard	**	**	**	**	**
Kent	**	**	0.0	**	0.0
Montgomery	**	**	**	**	0.0
Prince George's	**	**	**	**	**
Queen Anne's	0.0	0.0	0.0	0.0	0.0
Saint Mary's	**	0.0	**	**	0.0
Somerset	0.0	0.0	0.0	0.0	0.0
Talbot	**	0.0	**	**	0.0
Washington	**	**	**	**	**
Wicomico	**	**	**	**	**
Worcester	**	**	**	**	0.0
Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.					
** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.					
Source: Maryland Division of Health Statistics					

MARYLAND ORAL CANCER MORTALITY RATES BY REGION
1993-1997



Rates are per 100,000 and age-adjusted to the 1970 U.S. population
U.S. Oral Cancer Mortality Rate, 1993-1997: 2.6 per 100,000

Baltimore Metro Rate excludes Baltimore City

Rates cannot be shown for individual jurisdictions in the Southern Region, the Eastern Shore, the Baltimore Metro Region and the Northwest Region because the number of cases in each of the jurisdictions is less than 26 cases and, therefore, not reliable. Regional rates with 95% confidence intervals are presented in Appendix E.

G. MELANOMA OF THE SKIN

Incidence (New Cases)

Skin cancer is the most common type of cancer in Maryland. There are three types of skin cancer: basal cell carcinoma, squamous cell carcinoma, and melanoma. Basal cell carcinoma and squamous cell carcinoma are the most common forms of skin cancer. Melanoma is the rarest and most serious type of skin cancer (NCI, PDQ).

A total of 820 Marylanders were diagnosed with melanoma of the skin during 1997. The 1997 age-adjusted melanoma incidence rate in Maryland is 14.1 per 100,000 population (13.1-15.2, 95% C.I.) and is similar to the total 1997 SEER rate of 14.3 per 100,000. Melanoma is more common among whites than blacks. The rate among whites is 13.0 per 100,000 (11.5-13.8, 95% C.I.).

Mortality (Deaths)

A total of 120 Marylanders died of melanoma of skin in 1997. The 1997 age-adjusted melanoma mortality rate in Maryland is 2.0 per 100,000 population (1.7-2.4, 95% C.I.). This rate is comparable to the 1997 U.S. melanoma mortality rate of 2.2 per 100,000 population. Maryland is ranked 34th in melanoma mortality among the states and the District of Columbia.

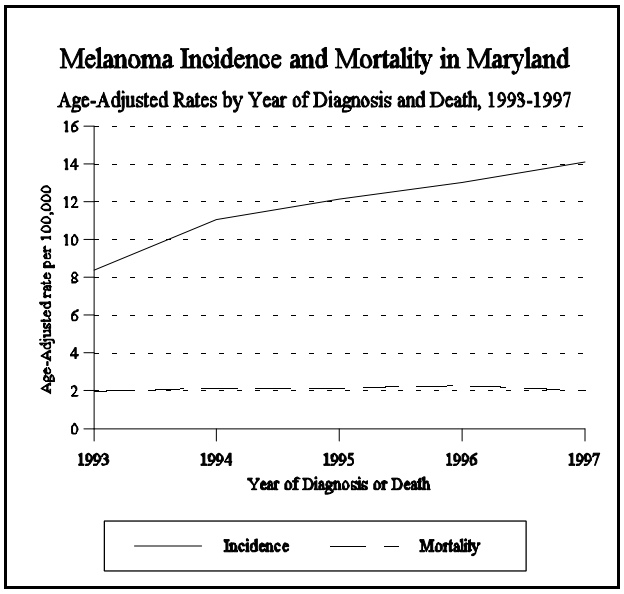
Table 31. Melanoma Incidence (1997) and Mortality (1997-1998)
Age-Adjusted Rates by Gender and Race*, Maryland and the United States

Incidence 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD New Cases (#)	820	442	378	555	9
MD Incidence Rate	14.1	17.2	12.1	13.0	**
SEER Rate	14.3	17.2	12.0	16.2	0.9
Mortality 1997	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD Deaths (#)	120	75	45	115	5 or less
MD Mortality Rate	2.0	3.0	1.3	2.6	**
U.S. Rate	2.2	3.2	1.5	2.5	0.4
Mortality 1998	*Total*	*Males*	*Females*	*Whites*	*Blacks*
MD Deaths (#)	111	70	41	106	5 or less
MD Mortality Rate	1.9	2.8	1.3	2.5	**
U.S. Rate	-	-	-	-	-

* There were 27 new melanoma cases with “other” and 226 cases with “unknown” race in 1997.

** Rates based on cells with less than 26 cases are not presented.

Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

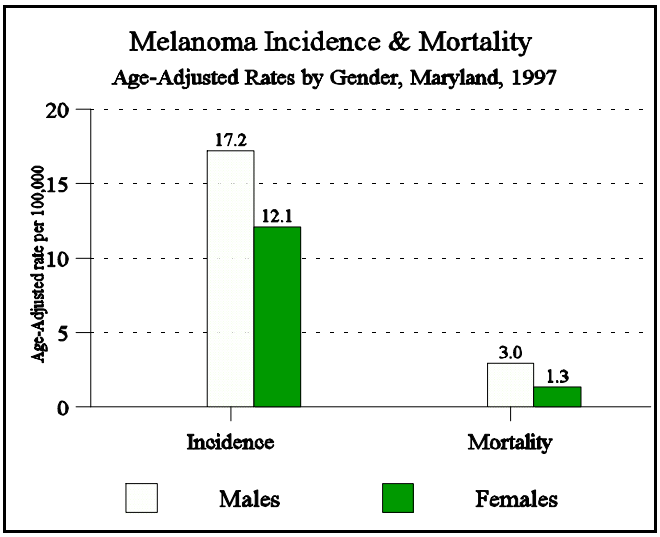


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Maryland's melanoma incidence rates have increased an average of 12% per year from 1993 to 1997. This increase in incidence is a trend that has also been observed nationally, although the increase in Maryland has occurred at a greater rate during the same time period.

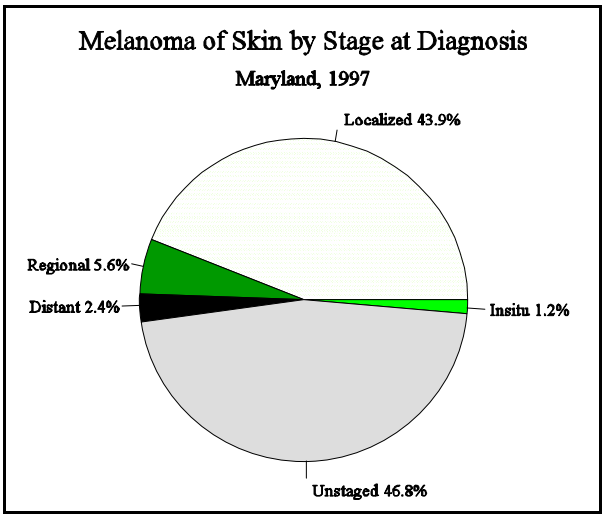
Melanoma mortality rates decreased an average of 1.2% per year in Maryland from 1993 to 1997.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Gender-Specific Rates

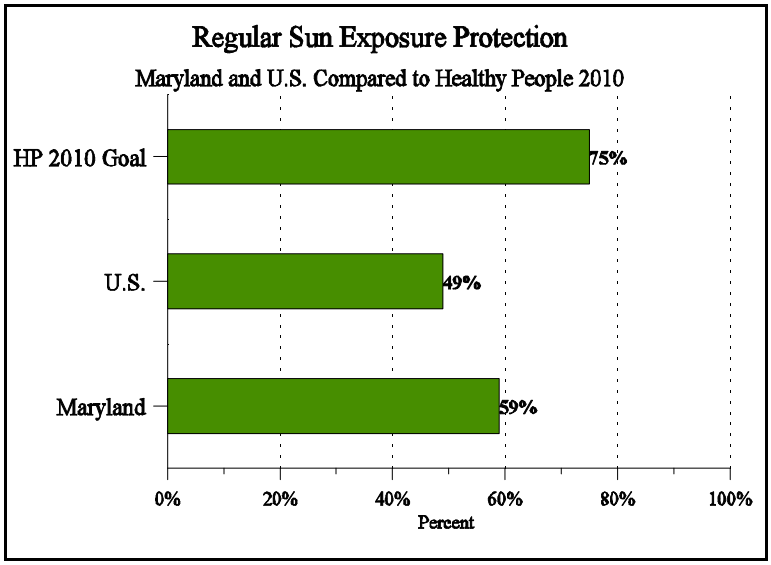
Males experience higher incidence and mortality rates from melanoma than females. The mortality rate among Maryland males is more than twice that of female residents.



Maryland Cancer Registry, 1997

Stage at Diagnosis

Forty-four percent of melanoma cases are diagnosed with localized (early) disease. This number is likely to be an underestimation because of the high proportion of unstaged melanomas (46.8%) that were reported to the Maryland Cancer Registry in 1997.



Maryland Office of Public Health Assessment, BRFSS, 1998
Department of Health and Human Services

Healthy People 2010 Goal

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

- avoid sun between 10am and 4pm;
- wear sun protective clothing when exposed to sunlight;
- use sun screen of SPF 15 or higher, and;
- avoid artificial sources of ultraviolet light (e.g. tanning booths).

Fifty-nine percent of Maryland adults use at least one of these measures.

Public Health Evidence (from: National Cancer Institute, PDQ, 4/2000)

"Avoidance of sunburns, especially in childhood and adolescence, may reduce the incidence of melanoma."

"Sun screen is not a substitute for the avoidance of sun exposure."

"There is insufficient data to determine whether early detection through routine skin examination (self or physician) decreases the number of deaths from melanoma."

"Research suggests that reduction of exposure to ultraviolet (UV) radiation will reduce the incidence of nonmelanoma skin cancer."

Public Health Intervention

? Reduction of exposure to ultraviolet (UV) light by:

- Avoiding sun between 10am - 4pm,
- Wearing sun protective clothing when exposed to sunlight,
- Using sun screens with a SPF of 15 or higher, and
- Avoiding artificial sources of ultraviolet light (e.g. tanning booths)

Table 32. Number of New Melanoma Cancer Cases
by Jurisdiction, Race and Gender, Maryland, 1997

Jurisdiction	Total	Gender		Race			
		Males	Females	Whites	Blacks	Other	Unknown
Maryland	820	442	378	555	9	27	229
Allegany	13	6	7	13	0	0	0
Anne Arundel	119	66	53	54	0	11	54
Baltimore City	66	35	31	44	**	**	19
Baltimore County	136	72	64	111	**	**	21
Calvert	8	**	**	**	0	**	**
Caroline	6	**	**	6	0	0	0
Carroll	30	18	12	24	**	0	**
Cecil	18	7	11	16	0	**	**
Charles	10	9	**	**	0	0	6
Dorchester	**	**	**	**	0	0	0
Frederick	36	20	16	22	0	0	14
Garrett	**	**	**	**	0	0	0
Harford	43	19	24	37	0	0	6
Howard	38	21	17	23	0	**	s
Kent	7	**	**	7	0	0	0
Montgomery	121	62	59	63	0	7	51
Prince George's	44	23	21	28	**	0	s
Queen Anne's	9	s	**	s	0	0	**
Saint Mary's	11	**	s	9	0	0	**
Somerset	6	**	**	**	0	0	**
Talbot	11	s	**	10	0	0	**
Washington	41	28	13	33	0	0	8
Wicomico	18	11	7	14	**	0	**
Worcester	19	10	9	12	0	**	**
Unknown	**	**	**	**	0	0	**

**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Cancer Registry

Table 33. Melanoma Cancer Age-Adjusted Incidence Rates
by Jurisdiction, Gender and Race, Maryland, 1997

Jurisdiction	Total	Gender		Race		
		Males	Females	Whites	Blacks	Other
Maryland	14.1	17.2	12.1	13.0	**	17.6
Allegany	**	**	**	**	0.0	0.0
Anne Arundel	22.8	28.7	19.0	12.1	0.0	**
Baltimore City	8.0	10.3	6.7	14.0	**	**
Baltimore County	14.9	17.4	13.7	14.3	**	**
Calvert	**	**	**	**	0.0	**
Caroline	**	**	**	**	0.0	0.0
Carroll	18.6	**	**	**	**	0.0
Cecil	**	**	**	**	0.0	**
Charles	**	**	**	**	0.0	0.0
Dorchester	**	**	**	**	0.0	0.0
Frederick	19.0	**	**	**	0.0	0.0
Garrett	**	**	**	**	0.0	0.0
Harford	18.3	**	**	17.5	0.0	0.0
Howard	17.5	**	**	**	0.0	**
Kent	**	**	**	**	0.0	0.0
Montgomery	12.8	14.5	12.1	7.9	0.0	**
Prince George's	6.6	**	**	8.7	**	0.0
Queen Anne's	**	**	**	**	0.0	0.0
Saint Mary's	**	**	**	**	0.0	0.0
Somerset	**	**	**	**	0.0	0.0
Talbot	**	**	**	**	0.0	0.0
Washington	25.0	36.5	**	20.0	0.0	0.0
Wicomico	**	**	**	**	**	0.0
Worcester	**	**	**	**	0.0	**

Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.

** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Cancer Registry

Table 34. Number of Melanoma Deaths by Jurisdiction, Gender and Race, Maryland 1998					
Jurisdiction	Total	Gender		Race*	
		Males	Females	Whites	Blacks
Maryland	111	70	41	s	**
Allegany	**	**	**	**	0
Anne Arundel	13	s	**	13	0
Baltimore City	16	8	8	s	**
Baltimore County	17	s	**	s	**
Calvert	**	**	0	**	0
Caroline	0	0	0	0	0
Carroll	**	**	**	**	0
Cecil	**	0	**	**	0
Charles	**	**	**	**	0
Dorchester	**	**	0	**	0
Frederick	**	**	0	**	0
Garrett	**	**	0	**	0
Harford	**	**	**	**	0
Howard	**	0	**	**	0
Kent	0	0	0	0	0
Montgomery	13	s	**	13	0
Prince George's	8	**	**	**	**
Queen Anne's	**	**	0	**	0
Saint Mary's	**	**	**	**	0
Somerset	0	0	0	0	0
Talbot	**	**	0	**	0
Washington	**	**	**	**	0
Wicomico	**	0	**	**	0
Worcester	**	**	0	**	0

*There were 0 melanoma deaths among other or unknown races reported to the MCR in 1998.

** Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Division of Health Statistics

Table 35. Melanoma Age-Adjusted Mortality Rates
by Jurisdiction, Gender and Race, Maryland, 1998

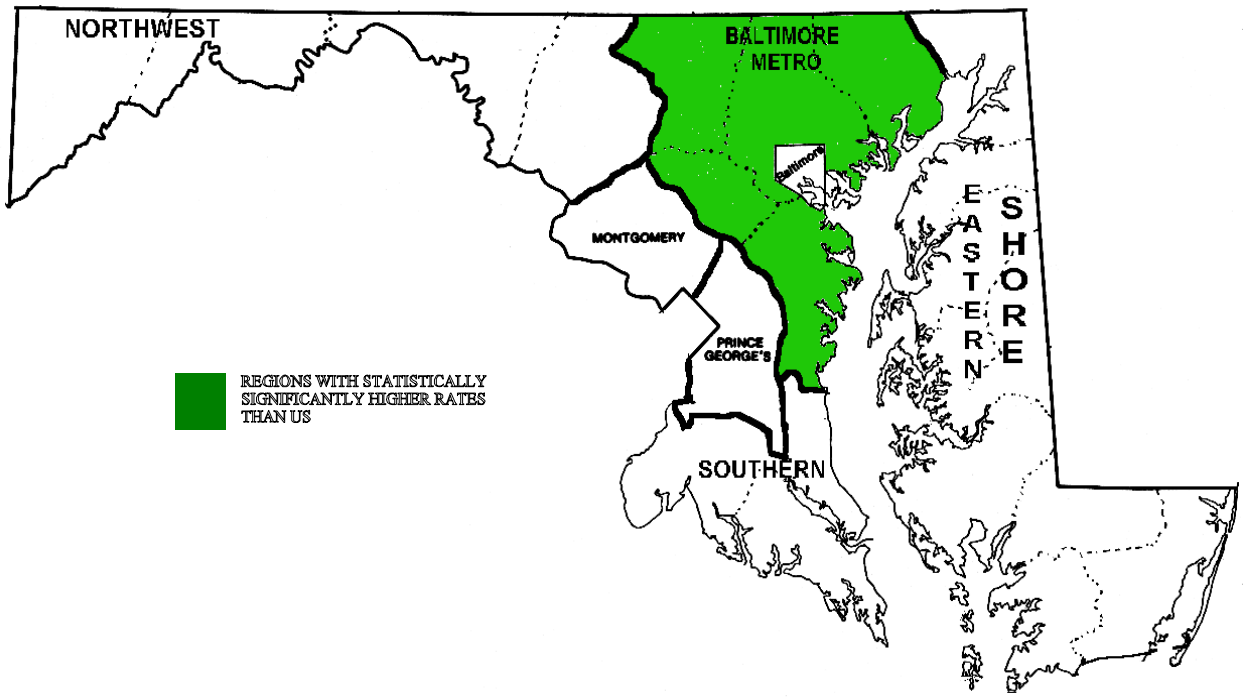
Jurisdiction	Total	Gender		Race	
		Males	Females	Whites	Blacks
Maryland	2.0	2.8	1.3	2.5	**
Allegany	**	**	**	**	0.0
Anne Arundel	**	**	**	**	0.0
Baltimore City	**	**	**	**	**
Baltimore County	**	**	**	**	**
Calvert	**	**	0.0	**	0.0
Caroline	0.0	0.0	0.0	0.0	0.0
Carroll	**	**	**	**	0.0
Cecil	**	0.0	**	**	0.0
Charles	**	**	**	**	0.0
Dorchester	**	**	0.0	**	0.0
Frederick	**	**	0.0	**	0.0
Garrett	**	**	0.0	**	0.0
Harford	**	**	**	**	0.0
Howard	**	0.0	**	**	0.0
Kent	0.0	0.0	0.0	0.0	0.0
Montgomery	**	**	**	**	0.0
Prince George's	**	**	**	**	**
Queen Anne's	**	**	0.0	**	0.0
Saint Mary's	**	**	**	**	0.0
Somerset	0.0	0.0	0.0	0.0	0.0
Talbot	**	**	0.0	**	0.0
Washington	**	**	**	**	0.0
Wicomico	**	0.0	**	**	0.0
Worcester	**	**	0.0	**	0.0

Rates are per 100,000 population and age-adjusted to 1970 U.S. Population.

** Rates derived from cells with less than 26 cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND MELANOMA OF THE SKIN MORTALITY RATES BY REGION
1993-1997



Rates are per 100,000 and ageadjusted to the 1970 U.S. population
U.S. Melanoma Mortality Rate, 1993-1997: 2.2 per 100,000

Baltimore Metro Rate excludes Baltimore City

Rates cannot be shown for individual jurisdictions in the Southern Region, the Eastern Shore, the Baltimore Metro Region and the Northwest Region because the number of cases in each of the jurisdictions is less than 26 cases and, therefore, not reliable. Regional rates with 95% confidence intervals are presented in Appendix E.

G. CERVICAL CANCER

Incidence (New Cases)

A total of 267 Marylanders were diagnosed with cervical cancer during 1997. The 1997 age-adjusted cervical cancer incidence rate in Maryland is 8.3 per 100,000 population (7.3-9.5, 95% C.I.), which is similar to the 1997 SEER rate of 7.5 per 100,000.

Mortality (Deaths)

A total of 92 Marylanders died of cervical cancer in 1997. The 1997 age-adjusted cervical cancer mortality rate in Maryland is 2.9 per 100,000 population (2.2-3.4, 95% C.I.). This rate is similar to the 1997 U.S. cervical cancer mortality rate of 2.6 per 100,000 population. Maryland has the 24th highest cervical cancer mortality rate among the states and the District of Columbia.

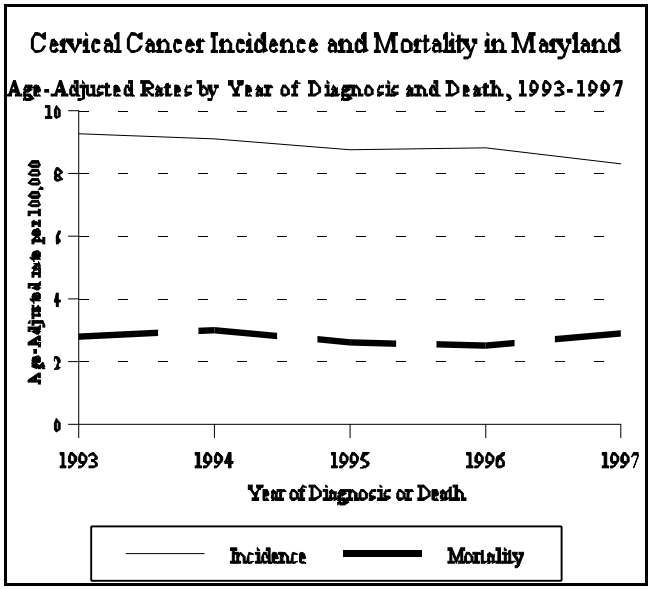
Table 36. Cervical Cancer Incidence (1997) and Mortality (1997-1998)
Age-Adjusted Rates by Race*, Maryland and the United States

Incidence 1997	*Total*	*Whites*	*Blacks*
MD New Cases (#)	267	170	70
MD Incidence Rate	8.3	7.4	9.1
SEER Rate	7.5	6.7	11.5
Mortality 1997	*Total*	*Whites*	*Blacks*
MD Deaths (#)	92	49	41
MD Mortality Rate	2.9	2.1	2.8
U.S. Rate	2.6	2.3	5.4
Mortality 1998	*Maryland*	*Whites*	*Blacks*
MD Deaths (#)	74	39	32
MD Mortality Rate	2.2	1.5	4.4
U.S. Rate	-	-	-

* There were 14 new cervical cancer cases with “other” and 13 cases with “unknown” race in 1997.

** The 1998 U.S. mortality information is not available.

Source: Maryland Cancer Registry
Maryland Division of Health Statistics
National Cancer Institute

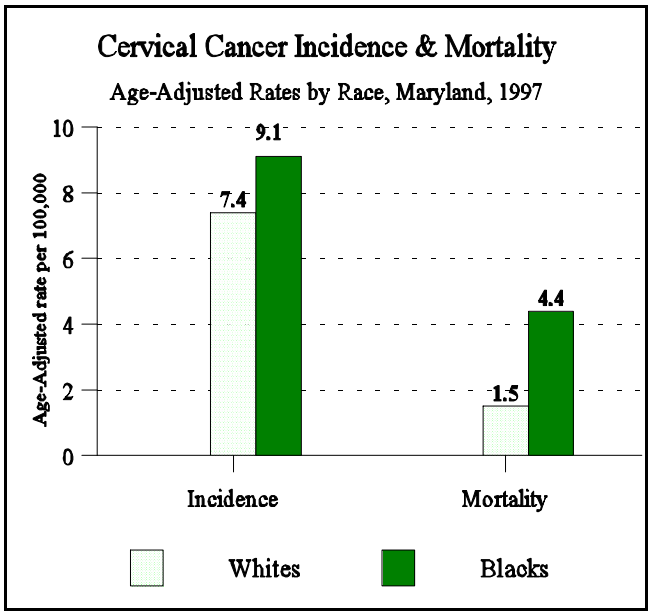


Maryland Cancer Registry, 1993-1997
Maryland Division of Health Statistics, 1993-1997

5-Year Trends

Maryland's cervical cancer incidence rates have decreased an average of 2.5% per year from 1993 to 1997.

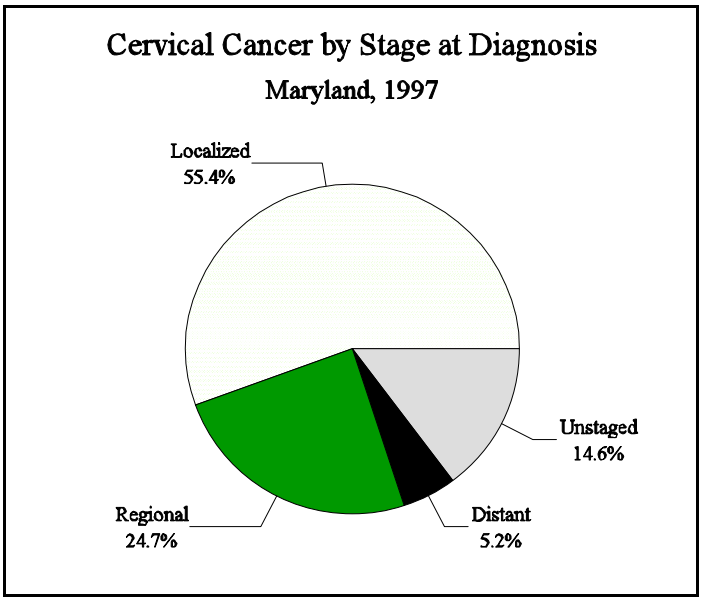
Cervical cancer mortality rates decreased an average of 1.1% per year in Maryland from 1993 to 1997.



Maryland Cancer Registry, 1997
Maryland Division of Health Statistics, 1997

Race-Specific Rates

Cervical cancer incidence and mortality rates are higher among black women.

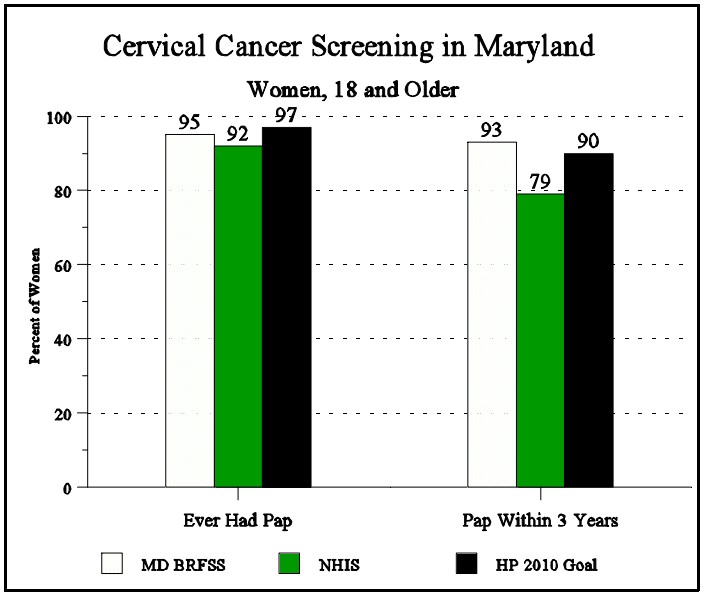


Maryland Cancer Registry, 1997

Stage at Diagnosis

Over half of Maryland's new cervical cancers were diagnosed at the local stage in 1997.

Whites are diagnosed with cervical cancer at the localized (early) stage in higher proportions than blacks (60.1% v.s. 54.3%).



Maryland Office of Public Health Assessment, 1998
NHIS Preliminary 1998 Data
Data Include Women without cervix

Healthy People 2010 Objective

The Healthy People 2010 Objective is to increase to 97% the proportion of women 18 years of age and above who have "ever" received cervical cancer screening (Pap smear) and to 90% those who have received a Pap smear "within the past 3 years."

During 1998, 95% of Maryland women reported "ever" having had a Pap smear, and 93% have had a Pap smear within the past 3 years.

Public Health Evidence (from National Cancer Institute, PDQ, 7/2000)

Screening

Evidence strongly suggests that regular screening using the Pap smear test decreases mortality due to cervical cancer. The upper age limit at which such screening ceases to be effective is unknown.

Primary Prevention

Women who have not had regular Pap tests are at increased risk of cervical cancer. Receiving regular Pap tests is the most important step in preventing cervical cancer. Cervical infection with the human papilloma virus (HPV) is a primary risk factor for cervical cancer. However, HPV is very common, and only a small percentage of women infected with HPV will develop cervical cancer. Women who have sexual intercourse before age 16 and women who have many sexual partners are at greater risk of HPV infection and developing cervical cancer. Cigarette smoking may be associated with an increased risk of cervical cancer; many studies have shown this association while other studies have not. Increased intake of carotene and vitamins C and E may reduce the risk of cervical cancer.

Public Health Intervention for Cervical Cancer (from National Cancer Institute, PDQ, 7/2000)

? Early detection of cervical cancer using the Pap test for all women, beginning at the onset of sexual activity or by age 18 if not sexually active.

Table 37. Number of New Cervical Cancer Cases by Jurisdiction and Race, Maryland, 1997					
Jurisdiction	Total	Race			
		Whites	Blacks	Others	Unknown
Maryland	267	170	70	14	13
Allegany	7	7	0	0	0
Anne Arundel	24	18	**	**	0
Baltimore City	43	s	25	**	0
Baltimore County	39	29	**	**	**
Calvert	**	**	0	0	0
Caroline	**	**	0	0	0
Carroll	7	7	0	0	0
Cecil	**	**	0	**	0
Charles	6	**	**	0	**
Dorchester	**	0	**	0	0
Frederick	11	11	0	0	0
Garrett	**	**	0	0	0
Harford	10	s	**	0	0
Howard	6	**	**	**	0
Kent	**	**	0	0	0
Montgomery	36	29	**	**	**
Prince George's	32	6	22	**	**
Queen Anne's	**	**	0	0	0
Saint Mary's	**	**	**	0	**
Somerset	**	0	**	0	0
Talbot	**	**	0	0	0
Washington	7	7	0	0	0
Wicomico	8	**	**	**	0
Worcester	**	**	**	0	0
Unknown	**	0	0	**	**
**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.					
s = Number was supressed to ensure confidentiality of cell in other column.					
Source: Maryland Cancer Registry					

Table 38. Cervical Cancer Age-Adjusted Incidence Rates by Jurisdiction and Race, Maryland, 1997					
Jurisdiction	Total	Race			
		Whites	Blacks	Others	Unknown
Maryland	8.3	7.4	9.1	**	**
Allegany	**	**	0.0	0.0	0.0
Anne Arundel	**	**	**	**	0.0
Baltimore City	9.2	**	**	**	0.0
Baltimore County	8.0	6.7	**	**	**
Calvert	**	**	0.0	0.0	0.0
Caroline	**	**	0.0	0.0	0.0
Carroll	**	**	0.0	0.0	0.0
Cecil	**	**	0.0	**	0.0
Charles	**	**	**	0.0	**
Dorchester	**	0.0	**	0.0	0.0
Frederick	**	**	0.0	0.0	0.0
Garrett	**	**	0.0	0.0	0.0
Harford	**	**	**	0.0	0.0
Howard	**	**	**	**	0.0
Kent	**	**	0.0	0	0.0
Montgomery	6.8	6.8	**	**	**
Prince George's	7.7	**	**	**	**
Queen Anne's	**	**	0.0	0.0	0.0
Saint Mary's	**	**	**	0.0	**
Somerset	**	0.0	**	0.0	0.0
Talbot	**	**	0.0	0.0	0.0
Washington	**	**	0.0	0.0	0.0
Wicomico	**	**	**	**	0.0
Worcester	**	**	**	0.0	0.0
Unknown	**	0.0	0.0	**	**
Rates are age-adjusted to 1970 Standard U.S. Population and presented per 100,000 population.					
** Rates based on cells with 25 or less cases are not presented as per DHMH/MCR Data Use Policy.					
Source: Maryland Cancer Registry					

Table 39. Number of Cervical Cancer Deaths by Jurisdiction and Race, Maryland, 1998				
Jurisdiction	Total	Race		
		Whites	Blacks	Others
Maryland	74	39	32	**
Allegany	**	**	0	0
Anne Arundel	**	**	**	0
Baltimore City	19	s	12	**
Baltimore County	**	**	**	**
Calvert	0	0	0	0
Caroline	**	**	0	0
Carroll	**	**	**	0
Cecil	**	0	**	0
Charles	**	**	0	0
Dorchester	**	**	**	0
Frederick	**	**	0	0
Garrett	**	**	0	0
Harford	**	**	0	0
Howard	**	**	0	**
Kent	**	**	0	0
Montgomery	6	**	**	0
Prince George's	10	**	8	0
Queen Anne's	0	0	0	0
Saint Mary's	0	0	0	0
Somerset	**	0	**	0
Talbot	0	0	0	0
Washington	**	**	0	0
Wicomico	**	0	**	0
Worcester	0	0	0	0

**Cells with less than 6 cases are not presented as per DHMH/MCR Data Use Policy.

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

Source: Maryland Division of Health Statistics

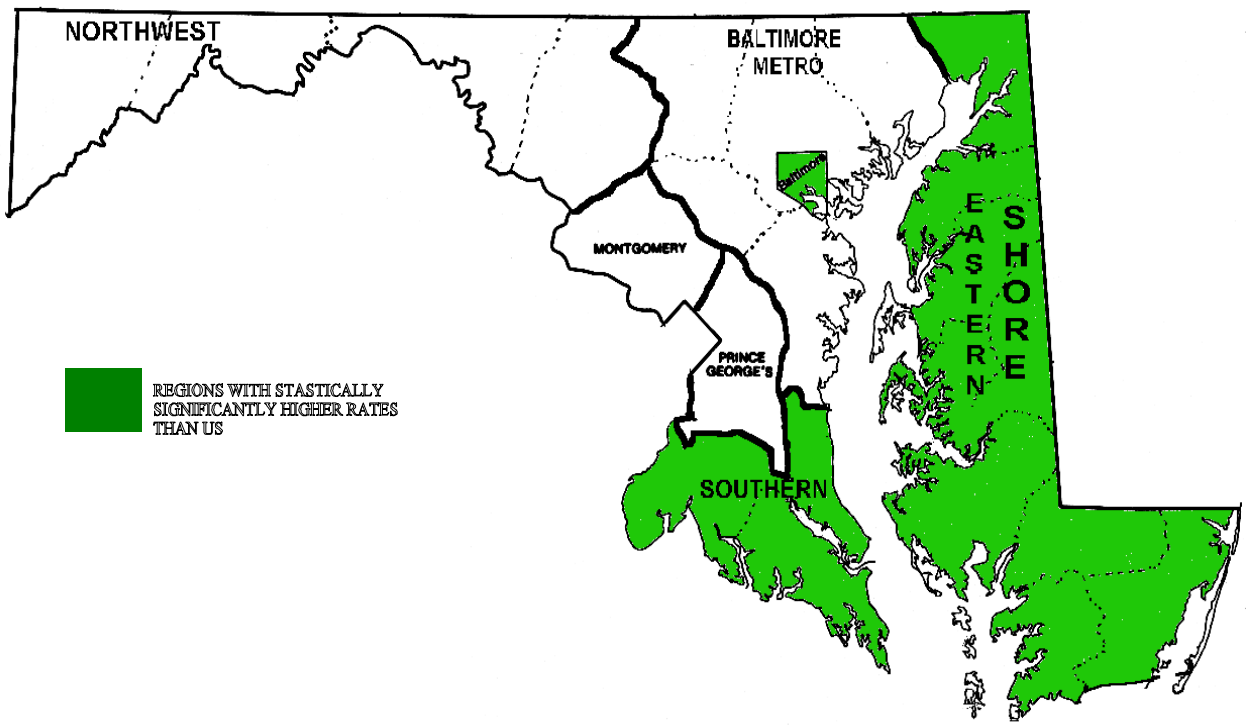
Table 40. Cervical Cancer Age-Adjusted Mortality Rates by Jurisdiction and Race, Maryland, 1998				
Jurisdiction	Total	Race		
		Whites	Blacks	Others
Maryland	2.2	1.5	4.4	**
Allegany	**	**	0.0	0.0
Anne Arundel	**	**	**	0.0
Baltimore City	**	**	**	**
Baltimore County	**	**	**	**
Calvert	0.0	0.0	0.0	0.0
Caroline	**	**	0.0	0.0
Carroll	**	**	**	0.0
Cecil	**	0.0	**	0.0
Charles	**	**	0.0	0.0
Dorchester	**	**	**	0.0
Frederick	**	**	0.0	0.0
Garrett	**	**	0.0	0.0
Harford	**	**	0.0	0.0
Howard	**	**	0.0	**
Kent	**	**	0.0	0.0
Montgomery	**	**	**	0.0
Prince George's	**	**	**	0.0
Queen Anne's	0.0	0.0	0.0	0.0
Saint Mary's	0.0	0.0	0.0	0.0
Somerset	**	0.0	**	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	0.0	0.0

Rates are per 100,000; Age-adjusted to 1970 U.S. Population

** Rates based on cells with less than 26 cases are not presented as per DHMH/MCR Data Use Policy.

Source: Maryland Division of Health Statistics

MARYLAND CERVICAL CANCER MORTALITY RATES BY REGION
1993-1997



Rates are per 100,000 and age-adjusted to the 1970 U.S. population
U.S. Cervical Cancer Mortality Rate, 1993-1997: 2.8 per 100,000.

Baltimore Metro Rate excludes Baltimore City.

Rates cannot be shown for individual jurisdictions in the Southern Region, the Eastern Shore, the Baltimore Metro Region and the Northwest Region because the number of cases in each of the jurisdictions is less than 26 cases and, therefore, not reliable. Regional rates with 95% confidence intervals are presented in Appendix E.

APPENDIX A

Technical Notes

Appendix A: Technical Notes

? **Incidence:** The number of new cases of a given event during a defined time period. For the purposes of this report, cancer incidence refers to the number of new cases diagnosed during 1997. Cancer incidence data are also presented in an aggregated form for the years 1993 through 1997.

? **Mortality:** Refers to the number of deaths during a defined time period. For the purposes of this report, cancer mortality data are presented for the years 1997 and 1998. Cancer mortality data are also presented in an aggregated form for the years 1993 through 1997.

? **Rate:** An estimate of the burden of a given disease on a defined population. A (crude) rate is calculated by dividing the number of cases (events) by the population at risk during a given time period. Cancer incidence and mortality rates are usually presented per 100,000 population. (Multiplying the rate by 100,000 results in a larger number that is easier to interpret.)

? **Age-Adjustment:** Age is the most important risk factor for cancer incidence. Cancer rates derived from populations that differ in age distributions are not able to be compared. Age-adjustment is a statistical technique that allows for the comparison of rates among populations having different age distributions by standardizing the age-specific rates in each population to one standard population. All rates presented in this report are age-adjusted to the 1970 U.S. standard population (Appendix C).

• **Confidence Intervals:** A confidence interval is a range of values within which the true rate is expected to fall. If the confidence intervals of two groups (such as Maryland and the U.S.) overlap, then any difference between the two rates is not statistically significant. All rates presented in this report were calculated at a 95 percent confidence level. For example, the 1997 age-adjusted lung cancer rate in Maryland is 66.9 per 100,000 population. The 95% confidence interval for this rate is 64.8 to 69.1. We have, therefore, a 95% degree of certainty that the true (real) rate is between 64.8 and 69.1.

? **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 are based on the SEER Summary Staging Guidelines:

1. *Insitu*: the cancerous cells have not invaded the tissue basement membranes. Insitu cancers are not considered malignant (with the exception of bladder cancers) and are not included in incidence rate calculations.
2. *Localized*: the tumor is confined to the organ of origin.

3. *Regional*: the tumor has spread to adjacent organs or tissue. Regional lymph

nodes may also be involved.

4. *Distant*: the tumor has spread beyond the adjacent organs or tissues. Distant lymph nodes, organs and/or tissues may also be involved.
5. *Unstaged*: Stage of disease at diagnosis was unable to be classified.

? **Estimated Annual Percentage Change (5-Year trend data):** A measure of the annual percent increase or decrease in cancer rates over time. The EAPC is calculated by fitting a regression line to the natural logarithm of the rates, using the year of diagnosis as the independent variable. For the purposes of this report, 5-Year trend data are presented for the years 1993 through 1997.

APPENDIX B

Maryland Population Estimates, 1997-1998

MARYLAND POPULATION ESTIMATES, JULY 1, 1997

Jurisdiction	*Age Group*											*Total*
	Under one	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85 +	
Maryland State	**70,310**	**277,415**	**728,304**	**630,635**	**814,259**	**914,732**	**672,826**	**401,059**	**326,054**	**197,789**	**61,541**	**5,094,924**
Northwest Region	**5,320**	**20,712**	**61,274**	**53,217**	**59,002**	**71,067**	**54,237**	**34,239**	**27,946**	**19,226**	**6,328**	**412,568**
Garrett	350	1,403	4,910	3,616	3,801	4,542	3,926	2,565	2,214	1,593	515	29,435
Allegany	770	2,942	9,685	9,872	7,782	10,404	9,536	7,457	6,876	5,134	1,643	72,101
Washington	1,570	6,067	17,477	15,903	19,272	21,118	16,770	11,450	9,596	6,518	2,192	127,933
Frederick	2,630	10,300	29,202	23,826	28,147	35,003	24,005	12,767	9,260	5,981	1,978	183,099
Baltimore Metro Region	**32,900**	**132,645**	**345,660**	**294,977**	**384,083**	**431,917**	**318,301**	**198,537**	**166,114**	**100,734**	**31,105**	**2,436,973**
Baltimore city	9,420	39,011	94,134	86,322	107,745	105,520	73,038	55,295	47,036	30,108	9,916	657,545
Baltimore county	8,940	34,924	91,334	81,436	108,571	124,361	93,223	65,384	62,398	38,229	11,720	720,520
Anne Arundel	6,410	24,894	67,721	60,425	73,856	86,368	67,247	36,862	27,386	15,010	4,055	470,234
Carroll	1,860	8,201	23,626	17,280	21,076	27,958	20,935	10,604	7,820	5,538	1,936	146,834
Howard	3,380	13,019	34,597	25,306	39,921	48,315	34,081	14,447	9,406	5,434	1,595	229,501
Harford	2,890	12,596	34,248	24,208	32,914	39,395	29,777	15,945	12,068	6,415	1,883	212,339
National Capital Region	**23,770**	**87,889**	**219,959**	**201,395**	**276,013**	**301,634**	**216,059**	**116,332**	**88,860**	**51,323**	**16,019**	**1,599,253**
Montgomery	11,740	45,024	111,331	89,624	138,687	158,389	113,763	63,702	52,420	33,021	10,766	828,467
Prince George's	12,030	42,865	108,628	111,771	137,326	143,245	102,296	52,630	36,440	18,302	5,253	770,786
Southern Region	**3,740**	**16,974**	**46,699**	**35,125**	**43,238**	**48,530**	**35,443**	**17,356**	**13,130**	**7,584**	**2,045**	**269,864**
Calvert	920	3,986	11,967	7,901	10,230	13,525	9,528	4,810	3,749	2,161	550	69,327
Charles	1,640	7,194	20,343	15,229	18,555	20,937	15,648	7,137	4,979	2,849	722	115,233
Saint Mary's	1,180	5,794	14,389	11,995	14,453	14,068	10,267	5,409	4,402	2,574	773	85,304
Eastern Shore Region	**4,580**	**19,195**	**54,712**	**45,921**	**51,923**	**61,584**	**48,786**	**34,595**	**30,004**	**18,922**	**6,044**	**376,266**
Cecil	1,080	4,562	13,258	10,427	11,366	14,332	10,800	6,425	4,902	2,796	823	80,771
Kent	190	854	2,325	2,722	2,252	2,665	2,516	1,900	1,902	1,193	408	18,927
Queen Anne's	440	2,081	5,888	3,806	5,511	6,808	5,597	3,741	2,922	1,720	465	38,979
Caroline	380	1,683	4,730	3,350	4,066	4,748	3,826	2,602	2,091	1,479	472	29,427
Talbot	340	1,498	4,139	2,981	4,022	5,077	4,416	3,462	3,541	2,470	798	32,744
Dorchester	360	1,480	4,157	3,146	3,953	4,606	3,864	3,067	2,735	1,871	608	29,847
Wicomico	1,070	4,111	11,827	10,990	11,133	13,155	9,850	6,702	5,486	3,543	1,181	79,048
Somerset	250	910	2,888	4,340	3,976	3,637	2,651	2,160	1,866	1,273	437	24,388
Worcester	470	2,016	5,500	4,159	5,644	6,556	5,266	4,536	4,559	2,577	852	42,135

Source: Maryland Division of Health Statistics

MARYLAND POPULATION ESTIMATES, JULY 1, 1998

Jurisdiction	Age Group: Under one	1 - 4	5 - 14	15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85 +	*Total*
Maryland State	**70,450**	**273,612**	**735,316**	**641,671**	**791,725**	**930,150**	**684,611**	**415,727**	**324,260**	**203,699**	**63,587**	**5,134,808**
Northwest Region	5,340	20,299	61,663	54,146	57,176	71,971	54,906	35,573	27,416	19,712	6,498	414,700
Garrett	350	1,344	4,873	3,645	3,617	4,531	3,920	2,647	2,160	1,622	529	29,238
Allegany	750	2,840	9,579	9,916	7,391	10,354	9,495	7,625	6,581	5,146	1,656	71,333
Washington	1,580	5,851	17,391	16,012	18,530	21,115	16,778	11,778	9,390	6,681	2,246	127,352
Frederick	2,660	10,264	29,820	24,573	27,638	35,971	24,713	13,523	9,285	6,263	2,067	186,777
Baltimore Metro Region	**32,910**	**129,997**	**347,196**	**298,928**	**371,361**	**437,218**	**322,707**	**204,939**	**164,078**	**103,016**	**31,930**	**2,444,280**
Baltimore city	9,350	37,509	92,732	85,724	102,490	104,941	72,792	55,538	45,183	29,476	9,858	645,593
Baltimore county	8,920	34,149	91,505	82,409	104,635	125,455	94,073	67,417	61,729	39,482	12,100	721,874
Anne Arundel	6,490	24,570	68,583	61,778	72,028	87,964	68,593	38,620	27,490	15,691	4,253	476,060
Carroll	1,860	8,167	24,083	17,862	20,625	28,679	21,522	11,225	7,838	5,809	2,027	149,697
Howard	3,340	13,245	35,698	26,366	39,622	50,152	35,472	15,459	9,578	5,760	1,696	236,388
Harford	2,950	12,357	34,595	24,789	31,961	40,027	30,255	16,680	12,260	6,798	1,996	214,668
National Capital Region	**23,880**	**87,222**	**223,124**	**205,153**	**269,862**	**308,143**	**220,528**	**120,831**	**89,691**	**53,500**	**16,756**	**1,618,690**
Montgomery	11,940	44,666	113,322	91,821	136,026	161,915	116,266	66,579	52,686	34,421	11,237	840,879
Prince George's	11,940	42,556	109,802	113,332	133,836	146,228	104,262	54,252	37,005	19,079	5,519	777,811
Southern Region	**3,790**	**17,112**	**48,088**	**36,594**	**42,871**	**50,296**	**36,845**	**18,502**	**13,298**	**7,959**	**2,155**	**277,510**
Calvert	920	4,067	12,393	8,314	10,203	14,107	9,980	5,163	3,843	2,299	588	71,877
Charles	1,660	7,209	20,831	15,801	18,314	21,583	16,166	7,569	5,062	3,003	765	117,963
Saint Mary's	1,210	5,836	14,864	12,479	14,354	14,606	10,699	5,770	4,393	2,657	802	87,670
Eastern Shore Region	**4,530**	**18,982**	**55,245**	**46,850**	**50,455**	**62,522**	**49,625**	**35,882**	**29,777**	**19,512**	**6,248**	**379,628**
Cecil	1,080	4,556	13,555	10,803	11,155	14,732	11,126	6,798	4,913	2,943	861	82,522
Kent	190	833	2,320	2,740	2,165	2,671	2,535	1,943	1,877	1,228	423	18,925
Queen Anne's	450	2,068	6,005	3,941	5,403	6,983	5,749	3,937	2,883	1,773	480	39,672
Caroline	350	1,673	4,733	3,399	3,927	4,788	3,873	2,683	2,064	1,512	487	29,489
Talbot	330	1,492	4,187	3,060	3,913	5,169	4,481	3,597	3,485	2,532	819	33,065
Dorchester	350	1,429	4,103	3,142	3,753	4,573	3,844	3,096	2,685	1,907	621	29,503
Wicomico	1,060	4,046	11,897	11,145	10,775	13,298	9,979	6,924	5,415	3,614	1,214	79,367
Somerset	240	900	2,880	4,365	3,873	3,650	2,663	2,206	1,805	1,272	442	24,296
Worcester	480	1,985	5,565	4,255	5,491	6,658	5,375	4,698	4,650	2,731	901	42,789

Source: Maryland Division of Health Statistics

APPENDIX C

1970 U.S. Standard Population

Appendix C	
U.S. Standard Population, 1970	
Age Group (years)	Count
0 to 4	84,416
5 to 9	98,204
10 to 14	102,304
15 to 19	93,845
20 to 24	80,561
25 to 29	66,320
30 to 34	56,249
35 to 39	54,656
40 to 44	58,958
45 to 49	59,622
50 to 54	54,643
55 to 59	49,077
60 to 64	42,403
65 to 69	34,406
70 to 74	26,789
75 to 79	18,871
80 to 84	11,241
85 plus	7,435
TOTAL	1,000,000

APPENDIX D

SEER Definition of Site Categories

Appendix D
International Classification of Diseases – 9th Revision
(ICD-9)

Cancer Site	Codes
Oral Cavity & Pharynx	140.0-149.9
Digestive System	
Esophagus	150-150.9
Stomach	151.0-151.9
Colon excluding rectum	153.0-153.9,159.0
Rectum and rectosigmoid	154.0-154.1
Liver & Intrahepatic Bile Duct	155.0-155.2
Pancreas	157.0-157.9
Respiratory	
Larynx	161.0-161.9
Lung & Bronchus	162.2-162.9
Skin	
Melanoma of Skin	172.0-172.9
Other Skin	173.0-173.9
Breast	174.0-174.9,175._
Female Genital Organs	
Cervix - Invasive	180.0-180.9
Uterus	179._,182.0-182.1,182.8
Ovary	183.0
Male Genital Organs	
Prostate	185._
Testis	186.0-186.9
Urinary System	
Bladder	188.0-188.9
Kidney and renal pelvis	189.0,189.1
Brain & Other Nervous System	191.0-191.9,192.0-192.3,192.8-192.9
Endocrine Glands	
Thyroid	193._
Leukemias	204.0,204.1,204.2-204.9, 205.0, 205.1,205.2-205.9, 206.0, 206.1, 206.2-206.9, 207.0, 208.0, 207.1, 208.1, 202.4, 203.1, 207.2, 207.8, 208.2-208.9
Lymphomas	
Hodgkin's	201.0-201.9
Non-Hodgkin's	200.0-200.8,202.0-202.2, 202.8-202.9
Myelomas	203.0,203.2-203.8
Other/Ill-defined sites	152.0-152.9,154.2-154.3,154.8, 156.0,156.1-156.9,158.0,158.8-158.9,159.8-159.9,160.0-160.9, 163.0-163.9, 162.0,164.2-165.9, 170.0-170.9,171.0-171.9,164.1, 184.0,184.1-184.4, 181._,183.2-183.9, 184.8,184.9,187.1-187.4, 187.5-187.9,189.2,189.3-189.4, 189.8-189.9,190.0-190.9, 164.0, 194.0-194.9,159.1,195.0-195.8, 196.0-196.9,199.0-199.1, 202.3, 202.5-202.6

APPENDIX E

Maryland Cancer Mortality (1993-1997)
Rates and Confidence Intervals

All Sites Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population)				
by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals	
			Lower	Upper
Maryland	50,368	181.1	179.5	182.7
Northwest Region	4,140	165.1	160.1	170.1
Garrrett	275	137.7	121.4	154.0
Allegany	1,017	163.3	153.2	173.3
Washington	1,471	175.8	166.8	184.8
Frederick	1,377	163.5	154.9	172.2
Baltimore Metropolitan Area	27,465	194.9	192.6	197.2
Baltimore City	10,143	241.0	236.3	245.7
Baltimore County	8,779	176.0	172.3	179.6
Anne Arundel	4,197	186.0	180.3	191.6
Carroll	1,288	175.6	166.0	185.1
Howard	1,350	157.1	148.7	165.5
Harford	1,708	176.4	168.0	184.8
National Capital Area	12,037	157.8	155.0	160.7
Montgomery	6,259	136.5	133.1	139.9
Prince Georges	5,778	187.0	182.2	191.8
Southern Region	2,029	185.9	177.8	194.0
Calvert	523	175.6	160.5	190.6
Charles	852	198.6	185.3	212.0
St. Mary's	654	180.4	166.6	194.2
Eastern Shore	4,697	189.5	184.1	194.9
Cecil	786	192.0	178.6	205.5
Kent	296	191.1	169.3	212.9
Quenn Anne's	381	161.4	145.2	177.6
Caroline	371	194.7	174.9	214.5
Talbot	443	152.3	138.1	166.5
Dorchester	463	198.1	180.1	216.1
Wicomico	968	205.5	192.5	218.4
Somerset	378	233.8	210.3	257.4
Worcester	611	188.9	173.9	203.8
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Lung & Bronchus Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population)				
by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals	
			Lower	Upper
Maryland	14,310	53.1	52.2	53.9
Northwest Region	1,185	49.3	46.5	52.1
Garrrett	67	35.0	26.7	43.4
Allegany	292	48.4	42.8	53.9
Washington	444	54.5	49.5	59.6
Frederick	382	48.0	43.2	52.8
Baltimore Metropolitan Area	8,038	58.6	57.3	59.9
Baltimore City	3,022	74.7	72.0	77.3
Baltimore County	2,530	51.8	49.7	53.8
Anne Arundel	1,348	60.7	57.5	64.0
Carroll	336	47.8	42.7	52.9
Howard	343	41.7	37.3	46.1
Harford	459	48.5	44.0	52.9
National Capital Area	2,993	40.7	39.2	42.1
Montgomery	1,461	33.1	31.4	34.8
Prince Georges	1,532	51.0	48.5	53.6
Southern Region	606	56.9	52.4	61.4
Calvert	161	54.4	46.0	62.8
Charles	261	62.4	54.8	70.0
St. Mary's	184	52.6	45.0	60.2
Eastern Shore	1,488	62.4	59.2	65.6
Cecil	269	67.6	59.6	75.7
Kent	83	56.0	44.0	68.1
Quenn Anne's	136	58.3	48.5	68.1
Caroline	114	61.7	50.4	73.0
Talbot	114	41.4	33.8	49.0
Dorchester	138	61.4	51.2	71.7
Wicomico	321	71.0	63.2	78.8
Somerset	124	81.7	67.3	96.0
Worcester	189	58.7	50.3	67.0
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Colon and Rectum Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population)				
by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals	
			Lower	Upper
Maryland	5,569	19.6	19.0	20.1
Northwest Region	530	20.5	18.7	22.2
Garrrett	39	20.1	13.8	26.4
Allegany	134	20.8	17.3	24.4
Washington	190	21.9	18.8	25.0
Frederick	167	19.5	16.5	22.4
Baltimore Metropolitan Area	3,078	21.2	20.5	22.0
Baltimore City	1,090	24.8	23.4	26.3
Baltimore County	1,030	19.9	18.7	21.1
Anne Arundel	466	20.5	18.7	22.4
Carroll	147	19.4	16.3	22.5
Howard	158	18.5	15.6	21.4
Harford	187	19.2	16.5	22.0
National Capital Area	1,260	16.3	15.4	17.2
Montgomery	652	13.7	12.7	14.8
Prince Georges	608	19.9	18.3	21.5
Southern Region	213	19.8	17.1	22.4
Calvert	55	18.7	13.8	23.6
Charles	93	22.4	17.9	27.0
St. Mary's	65	18.2	13.8	22.7
Eastern Shore	488	18.9	17.3	20.6
Cecil	68	16.4	12.5	20.2
Kent	28	17.6	11.1	24.1
Quenn Anne's	26	10.5	6.5	14.6
Caroline	46	23.4	16.6	30.1
Talbot	56	17.0	12.6	21.5
Dorchester	34	13.4	8.9	17.9
Wicomico	125	26.0	21.5	30.6
Somerset	45	27.8	19.7	36.0
Worcester	60	17.7	13.2	22.1
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Breast Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population) by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals Lower	Upper
Maryland	4,183	26.7	25.8	27.5
Northwest Region	322	23.0	20.4	25.5
Baltimore Metropolitan Area	1,431	25.9	24.6	27.2
Baltimore City	763	31.6	29.3	33.8
Montgomery	638	24.5	22.6	26.4
Prince Georges	571	30.8	28.3	33.3
Southern Region	136	22.8	18.9	26.6
Eastern Shore	322	24.4	21.7	27.1
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Prostate Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population) by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals Lower	Upper
Maryland	3,154	27.9	26.9	28.9
Northwest Region	240	22.1	19.3	24.9
Baltimore Metropolitan Area	999	25.1	23.6	26.7
Baltimore City	746	42.8	39.7	45.8
Montgomery	388	21.1	19.0	23.2
Prince Georges	346	32.2	28.8	35.6
Southern Region	132	29.9	24.8	35.0
Eastern Shore	303	27.1	24.0	30.1
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Oral Cavity & Larynx Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population) by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals Lower	Upper
Maryland	845	3.1	2.9	3.3
Northwest Region	65	2.7	2.1	3.4
Baltimore Metropolitan Area	260	2.7	2.4	3.1
Baltimore City	215	5.5	4.8	6.2
Montgomery	77	1.7	1.3	2.1
Prince Georges	115	3.7	3.0	4.4
Southern Region	38	3.6	2.4	4.7
Eastern Shore	75	3.2	2.5	3.9
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Melanoma Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population)				
by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals	
			Lower	Upper
Maryland	598	2.1	1.9	2.3
Northwest Region	48	1.9	1.4	2.4
Baltimore Metropolitan Area	272	2.7	2.4	3.1
Baltimore City	50	1.2	0.9	1.6
Montgomery	100	2.2	1.8	2.7
Prince Georges	41	1.2	0.8	1.6
Southern Region	28	2.5	1.6	3.4
Eastern Shore	59	2.4	1.8	3.0
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

Cervical Cancer Mortality				
Number of Cancer Deaths and Age-Adjusted Mortality Rates (per 100,000 population)				
by Jurisdiction, Maryland, 1993-1997				
Jurisdiction	Number of Deaths	Mortality Rates*	95% Confidence Intervals	
			Lower	Upper
Maryland	435	2.7	2.5	3.0
Northwest Region	34	2.5	1.6	3.3
Baltimore Metropolitan Area	98	1.8	1.4	2.1
Baltimore City	135	5.9	4.9	6.9
Montgomery	36	1.4	0.9	1.9
Prince Georges	50	2.5	1.8	3.2
Southern Region	27	4.5	2.8	6.2
Eastern Shore	55	4.2	3.1	5.3
* Rates are age-adjusted to 1970 Standard U.S. Population				
Source: Maryland Division of Health Statistics				

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