

Appendix A

Cigarette Restitution Fund
Annual Cancer Report Requirements

Cigarette Restitution Fund Annual Cancer Report Requirements

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

The law requires that the survey includes:

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

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

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

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

Appendix B
Annual Cancer Report Format

Annual Cancer Report Format

1. Selection of Targeted Cancers

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

2. Report Format

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

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

Additionally, Maryland 2001 incidence and mortality rates with 95% confidence intervals (95% C.I.) were compared to U.S. 2001 data from the Surveillance, Epidemiology and End Results (SEER) Program Cancer Statistics Review (1997-2001). Maryland rankings on 5-year mortality rates overall and by cancer site were also included. The SEER program does not provide statistics on "other" races for incidence and mortality; therefore, incidence and mortality counts and rates were not presented for the "other" race category. Incidence data on Hispanics have been added for all sites combined using a prescribed methodology for estimating Hispanic ethnicity. See Appendix C, Section D.7 (Data Considerations--Race and Ethnicity), for more information.

Figures (graphs and maps) are also used to display data. Two all cancer sites graphs show age-specific incidence and mortality rates by gender. Graphs are further used to display data on incidence and mortality from 1997-2001 with the estimated annual percentage change (EAPC) (see Appendix D, Glossary, for more information on EAPC); incidence and mortality by race or gender; stage of diagnosis; and behaviors of persons in Maryland as compared to persons in the U.S. Maps portray Maryland incidence and mortality data as compared to the U.S. for the combined years 1997-2001 by

geographical area. Maps denote areas with incidence and mortality grouped into four categories compared to corresponding U.S. rates (see Appendix H for map data).

Maryland population estimates for 2001 by race and gender can be found in Appendix E. Population numbers are denominators for calculating rates. In addition, Appendix F depicts the 2000 U.S. standard population organized by age groupings. There is a listing of International Classification of Diseases for Oncology (ICD-O-3) codes for frequently diagnosed cancer sites (Appendix G). Appendix I shows the age-adjusted cancer incidence and mortality rates for all cancer sites and the targeted cancers for quick comparisons of rates and the estimated annual percent change, 1997-2001, along with direction of the trend for each cancer site. Finally, Appendix J provides the percentages that depict trends in cancer stage at diagnosis for all cancer sites and the targeted cancers from 1996 to 2001.

Appendix C

Annual Cancer Report Data Sources, References, and Data Considerations

Annual Cancer Report Data Sources, References, and Data Considerations

A. Maryland Data Sources

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

1. *Maryland Cancer Registry*

The Maryland Cancer Registry (MCR), Center for Cancer Surveillance and Control, DHMH, is a computerized data system that registers all new cases of reportable cancers (excluding non-genital squamous cell or basal cell carcinoma) diagnosed or treated in Maryland. Incidence rates used in this report are calculated for the year 2001, in which the most complete data are available and includes all cases reported to the MCR as of November 2003.

a. *Registry Data Sources*

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

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

MCR 2001 incidence data achieved the "gold" certification for high quality from the North American Association of Central Cancer Registries (NAACCR) certification program. MCR has been awarded the "gold" certification three years in a row, for the years 1998, 1999 and 2000. In 2001, MCR was awarded "gold" status in the areas of timeliness and quality. MCR data were evaluated using the following criteria: data completeness, data quality, and timeliness.

2. *Maryland Division of Health Statistics*

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

3. *Behavioral Risk Factor Surveillance Survey*

The Maryland Behavioral Risk Factor Surveillance Survey (BRFSS) is an annual telephone survey conducted on a random sample of Maryland adult residents. This survey, managed by the

Maryland DHMH, Center for Preventive Health Services, Office of Surveillance and Assessment provided risk behavior and cancer screening information for this report. Maryland data can be accessed online at <http://www.marylandbrfss.org>. In addition, both Maryland and state-aggregated national data on health risk behavior can be obtained from the CDC Web site at: <http://www.cdc.gov/brfss>.

4. Maryland Cancer Survey

The Maryland Cancer Survey (MCS) is managed by the DHMH, Center for Cancer Surveillance and Control, Surveillance and Evaluation Unit. The purpose of the MCS survey was to determine cancer screening rates and to measure cancer risk behaviors among persons age 40 years and older living in Maryland, for selected cancers targeted by DHMH. The methodology used in the MCS is similar to the BRFSS. Unlike the BRFSS, the MCS conducted in 2002, focuses on people age 40 years and over, who have the highest risk of developing cancer.

5. Maryland Youth Tobacco Survey

The Maryland Youth Tobacco Survey (MYTS) was administered for the purpose of gathering attitude, usage, and exposure information regarding tobacco products for Maryland youth grades 9-12 statewide and within each of the 23 counties and Baltimore City in Maryland. Survey results are also used in apportioning Local Tobacco Use Prevention and Cessation grants among Maryland's 24 major political subdivisions.

The most recent survey was conducted in the Fall of 2002. Over 66,000 students in eligible Maryland public middle and high schools completed MYTS questionnaires statewide.

The MYTS is managed by the Center for Health Promotion, Education, and Tobacco Use Prevention. Complete data for the MYTS were published in 2000 and 2002. Copies of published reports are available from the Center at 410-767-1362.

Reports are also available through the DHMH Web site at:

<http://www.fha.state.md.us/crfp/html/stats.cfm>. The most recent report monitors changing tobacco use behaviors in Maryland and can be found at:

<http://www.mdpublichealth.org/crfp/pdf/Fall2003DataReport.pdf>

B. National Data Sources

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

1. Healthy People 2010

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

2010 objectives now serve as a year 2000 baseline; beginning with the baseline year, National Health Interview Survey and other data being compared against the Healthy People 2010 objectives are age-adjusted to the 2000 U.S. population. The Healthy People initiative is under the Office of Disease Prevention and Health Promotion, DHHS. Further information can be found on the Web site at: <http://www.healthypeople.gov/>.

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

The Surveillance, Epidemiology, and End Results (SEER) Program of the NCI is an authoritative source of information on cancer incidence, stage, and survival in the U.S. Staff of the NCI manages SEER. The SEER Program collects and publishes cancer incidence and survival data in order to assemble and report estimates of cancer incidence, survival, and mortality in the U.S. The data are collected from 14 U.S. cancer registries and three supplemental registries throughout the U.S. and are estimated to represent approximately 26% of the U.S. population. The SEER database adequately represents cancer incidence in the U.S. population with regard to race, ethnicity, age, gender, poverty, and education, and by collecting data on epidemiologically significant population subgroups. The mortality data reported by SEER are provided by NCHS. The SEER program began in 1973 and, in 1992, was expanded to increase coverage of minority populations, primarily Hispanics. The SEER program updates cancer statistics annually in a publication called the SEER Cancer Statistics Review (CSR). SEER data for specific cancers can be seen on the Web at:

http://www.seer.cancer.gov/csr/1975_2001/sections.html. Further information about SEER can also be found on the Web site at www.seer.cancer.gov.

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

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

Information provided in the chapters under the sections for "Public Health Evidence" and "Public Health Intervention" was taken primarily from the NCI, PDQ[®] Web site. Prevention and screening sections from this source provide information for health professionals and the public on various aspects of cancer control such as prevention, screening, treatment, genetics, and clinical trials. For some cancer types, the information is reviewed by a scientific editorial board and is updated as new research becomes available. The Editorial Board has revised its procedure; a two-step process is now in place for evaluating levels of evidence: a) study design, and b) assessment of the evidence. Whereas the Board previously only considered study design (evidence from the best studies available; ranked in descending order of strength), the PDQ Editorial Board now evaluates evidence in two steps. The first step is to describe the evidence within five domains (see below); the second is an assessment of certainty--to judge the overall "level" of evidence as "good," "fair," or "poor." The Board conducts the same process separately for potential benefits and potential harms of each intervention.

Step 1

Step 1 involves evaluating the levels of evidence in five domains; study designs in order of strongest evidence to weakest evidence, are described as follows:

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

Step 1 further entails assessing internal validity:

1. Quality of execution within the study design
2. Consistency (coherence)/volume of the evidence
3. Direction and magnitude of effects for health outcomes (both absolute and relative risks; as quantitative as possible; may vary for different populations)
4. External validity

Step 2

Step 2 is an assessment of the level of certainty (good, fair, poor) and is based on the Board's understanding of the direction and magnitude of the health effects of widespread implementation. The assessment may also include a statement of benefits and a second statement of harms.

More information about NCI, PDQ can be accessed at:

Levels of evidence

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

Prevention and screening

<http://www.cancer.gov/cancertopics/pdq/prevention>

<http://www.cancer.gov/cancertopics/pdq/screening>

The PDQ reference is used throughout the report for consistency in interpreting the results of scientific literature and is quoted directly from the Summary of Evidence. This report includes the date(s) of the last update of the PDQ for each targeted cancer site. PDQ definitions are included in Appendix D (Glossary). For additional information, the Web site is:

<http://www.cancer.gov/cancertopics/pdq>.

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

The Center for Cancer Surveillance and Control has convened four Medical Advisory Committees to formulate guidelines for breast, cervical, colorectal, and prostate cancer screening, diagnosis,

and treatment. The Office of Oral Health has convened a Medical Advisory Committee to formulate guidelines for oral cancer.

3. *Additional Medical Literature Quoted or Cited*

Lung and Bronchus Cancer: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Best Practices for Comprehensive Tobacco Control Programs (August 1999). http://www.cdc.gov/tobacco/research_data/stat_nat_data/bestprac-execsummay.htm and <http://www.ahrq.gov/clinic/uspstf/uspstflung.htm>.

Colorectal Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Screening for Colorectal Cancer: Recommendations and Rationale (July 2002). Originally in *Annals of Internal Medicine*, 2002;137:129-31. <http://www.ahrq.gov/clinic/3rduspstf/colorectal/colorr.htm>.

Female Breast Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Screening for Breast Cancer: Recommendations and Rationale (February 2002). <http://www.ahrq.gov/clinic/3rduspstf/breastcancer/brcanrr.htm>.

Female Breast Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Chemoprevention of Breast Cancer: Recommendations and Rationale (July 2002). <http://www.ahrq.gov/clinic/3rduspstf/breastchemo/breastchemorr.htm>.

Prostate Cancer: Smith, R.A., Cokkinides, V., Eyre, H.J. American Cancer Society Guidelines for the Early Detection of Cancer (Jan-Feb 2003). *CA Cancer J. Clin.*, 53(1):27-43. <http://caonline.amcancersoc.org/cgi/content/full/53/1/27>.

Oral Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Screening for Oral Cancer: Recommendation Statement (February 2004). <http://www.ahrq.gov/clinic/3rduspstf/oralcan/oralcanrs.htm>.

Skin Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Screening for Skin Cancer: Recommendations and Rationale (April 2001). Article originally in *Am J Prev Med* 2001;20(3S):44-6. <http://www.ahrq.gov/clinic/ajpmsuppl/skarr.htm>.

Cervical Cancer: U.S. Preventive Services Task Force, Agency for Healthcare Research and Quality, Rockville, MD. Screening for Cervical Cancer (January 2003). Publication No. 03-515A. <http://www.ahrq.gov/clinic/3rduspstf/cervcan/cervcanwh.htm>.

D. Data Considerations

1. Data Confidentiality

DHMH regards all data received, processed, and reported to and by the MCR and the Division of Health Statistics as confidential. Data are secured from unauthorized access and disclosure.

The MCR manages and releases cancer information in accordance with the laws, and regulations established by the State of Maryland as set forth in the Code of Maryland Regulations, COMAR 10.14.01 (Cancer Registry) and Health-General Article §§ 18-203 and 18-204, Annotated Code of Maryland.

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

2. Gender

Gender is now reported to the MCR as: a) male, b) female, c) hermaphrodite, d) transsexual, and e) unknown. The totals shown in the count for number of cancer cases may not equal the sum of males and females because of cases in these other gender categories.

3. Rate Analysis

Incidence rates presented in this report were calculated using Maryland resident cancer cases diagnosed from January 1, 2001 through December 31, 2001, and reported to the MCR as of November 2003. The mortality data consist of deaths that occurred between January 1, 2001 and December 31, 2001.

Age-adjustment, also called age-standardization, is one of the tools used to control for the different and changing age distributions of the population in states, counties, etc., and to enable meaningful comparisons of vital rates over time. Age-adjusted rates do not include cancer cases on whom age has not been reported. Federal agencies have adopted the year 2000 U.S. standard population as the new standard for age-adjusting incidence and mortality rates, beginning with data year 1999. For consistency and ease of comparison, incidence and mortality rates in this report were calculated and age-adjusted using the 2000 U.S. population as the standard population. This new standard replaces prior standards based on the 1940 or 1970 standard population for the nation.

The age structure of the U.S. population has changed considerably between 1970 and 2000, with the 2000 population having a larger proportion of older persons than the 1970 population standard. Given that age is the most important risk factor for cancer, using the year 2000 U.S. standard population results in higher overall age-adjusted cancer incidence and mortality rates. Additional information on age-adjustment can be found at <http://www.cdc.gov/nchs/data/statnt/statnt20.pdf>.

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

The Estimate Annual Percent Change (EAPC) was calculated for incidence and mortality over time (from 1997 to 2001). See Appendix D, Glossary, for the definition of EAPC.

4. Confidence Intervals and Statistical Significance

A confidence interval is a range of values within which the true rate is expected to fall. Confidence intervals can be used as an indicator of the precision of a value. A small confidence interval enables the rate as a single data point to be used in place of a confidence interval. Conversely, a small sample or population can require a large difference before the difference becomes statistically significant. Many of the tests for statistical significance used in this report are based on relatively small populations; therefore, a test of statistical significance merely serves as a benchmark for evaluating difference. Sample size is closely related to size of the confidence interval. A rate having a larger sample will have a confidence interval that is more narrow and, therefore, more precise. For additional information regarding the formula used to calculate the confidence level, refer to the SEER Web site at:
http://www.seer.cancer.gov/seerstat/WebHelp/Rate_Algorithms.htm

A narrow confidence interval suggests the estimate is more precise than a wider confidence interval. In addition to considerations of precision, confidence intervals are used in this report for determining statistical significance. One way statistical significance is used in this report is for comparing the Maryland incidence and mortality burden by cancer type with its corresponding U.S. rate. If the confidence interval of a Maryland rate includes the U.S. SEER rate, Maryland and the U.S. are considered comparable or not statistically significantly different. This method was used for comparing SEER data to Maryland because only a particular U.S. rate was available for representing the confidence interval. The way the method for testing confidence intervals for statistical significance was applied is different for U.S. SEER data because only a specific rate is known--not the confidence interval itself. Because U.S. data were based on very large numbers, the range for the confidence interval will tend to be narrow. All Maryland rates presented in this report were calculated at the 95 percent confidence level. For example, the 2000 U.S. SEER-reported lung cancer incidence rate was 55.2 per 100,000 population. Maryland's rate is 56.8 per 100,000. The 95% confidence interval for this rate is 56.8 to 58.9. We have, therefore, a 95% degree of certainty that the true (real) rate is between 56.8 and 58.9 per 100,000 age-adjusted population. Another way the test is applied for deciding whether two rates are different and the direction of the difference involves looking for overlapping ranges. If any part of the confidence interval for the two populations overlaps, there is no difference. If no overlapping occurs, then the two groups are statistically significantly different. The numerically larger non-overlapping category is statistically significantly higher.

When data are comparable (not statistically significantly different) the term "similar" is used in this report for describing the comparison.

5. Year 2000 U.S. Standard Population

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

2000 standard was recommended to promote uniformity of data among agencies, and to eliminate the need to calculate rates using more than one standard.

6. National Comparison Data

Maryland and county incidence and mortality rates are compared to 2001 U.S. SEER incidence rates and 2001 U.S. SEER mortality rates. The SEER program does not provide rates for “other” races, so comparisons are not presented.

Maryland’s mortality ranking among the 50 states and the District of Columbia for all cancer sites combined and for specific targeted cancers is based on a five-year average. SEER data contained in this report is based on the average annual age-adjusted cancer death rates by state, 1997-2001. Because mortality rates describe the cancer burden better than incidence rates, only Maryland rankings for mortality are presented for each targeted cancer. Data used for Maryland cancer mortality ranking by site were extracted from: http://seer.cancer.gov/faststats/html/mor_all.html.

Area analysis in the report also makes comparisons against national data. For both incidence and mortality rate maps, the U.S. cancer incidence or mortality rate was used as a baseline against which Maryland jurisdictions (county and region) are compared. A ramp is used for grouping Maryland data into categories in reference to baseline. The ramp groups data into four divisions: >25% below U.S. rate; 0-25% below U.S. rate; 1-25% above U.S. rate; and >25% above U.S. rate.

7. Race and Ethnicity

The MCR began requiring submission of more detailed data on race and ethnicity beginning August 1998. Previously, race reported as Native American, Asian, and Pacific Islander were counted in the “other” race category. Because information on ethnicity was not reliably reported to the MCR in 2001, it is not included in this report. The present report does, however, include one table (see Table 4) depicting Hispanic cancer incidence. Only year 2001 new cases and incidence rates were included. The table shows overall counts and incidence rates by county and region for all cancer sites combined.

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

8. Healthy People 2010 Objectives/BRFSS/MCS

Risk behaviors are compared to Healthy People 2010 objectives. Measures for cancer-related behaviors (e.g., screening tests) and the recommendations for their use may change over time. BRFSS and MCS questions that measure screening and other health behaviors are updated to reflect changes in how risk behavior needs to be measured.

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

9. Appendices

Please refer to additional appendices for Cigarette Restitution Fund Program Annual Cancer Report requirements, report format, technical notes and definitions, Maryland population counts, U.S. standard population for 2000, International Classification of Diseases (ICD) codes for cancer (Appendix G), Maryland rates and confidence intervals for incidence and mortality data from 1997-2001 (Appendix H), Maryland Trend in Age-Adjusted Cancer Incidence and Mortality Rates by Cancer Site and Year, 1997-2001 (Appendix I), and Maryland Trend in Cancer Stage of Disease at Diagnosis Year for Each Cancer Site, 1996-2001 (Appendix J).

Appendix D

Glossary

Glossary

- **Age-Adjustment:** Age is the most important risk factor for the incidence of most cancers. Cancer rates derived from populations that differ in underlying age structure are not comparable. Therefore, age-adjustment is a statistical technique that allows for the comparison of rates among populations having different age distributions by weighting the age-specific rates in each population to one standard population. Additional information on age-adjustment can be found on the following Web sites:
<http://www.cdc.gov/nchs/data/statnt/statnt20.pdf> and
<http://www.cdc.gov/nchs/dataawh/nchsdefs/ageadjustment.htm>.
- **Ascertainment:** Ascertainment refers to the quality assurance procedures Maryland Cancer Registry staff use for insuring completeness of cancer cases in the registry database. These activities include a review of disease indices from all reporting hospitals to identify possible missed cases, a random sample of records from reporting facilities, and review of death certificate data to identify cancer cases not previously reported.
- **Cancer:** A disease characterized by the uncontrolled, abnormal growth of cells in different parts of the body that can spread to other parts of the body.
- **Chemoprevention:** Chemoprevention is the use of drugs, vitamins, or other agents to try to reduce the risk of cancer or to delay the development or recurrence of cancer.
- **Estimated Annual Percentage Change (EAPC) (5-year trend data):** EAPC is measure of the annual percent increase or decrease in cancer rates over time. It is an estimated average change per year over a defined time span. For the purpose of this report, 5-year incidence and mortality trend data and corresponding EAPCs are presented for the years 1997 through 2001. A more detailed description of the method can be found at:
[http://seer.cancer.gov/seerstat/WebHelp/seerstat.htm#EAPC_Calculation_\(Rate_Session\).htm](http://seer.cancer.gov/seerstat/WebHelp/seerstat.htm#EAPC_Calculation_(Rate_Session).htm).
- **Incidence:** Incidence is the number of new cases of a given cancer or other event during a defined period, usually one year. For the purpose of this report, cancer incidence refers to the number of new cases diagnosed during calendar year 2001. Cancer incidence data are also presented in aggregated form as the average annual incidence for the years 1997 through 2001.
- **Invasive cancer:** A stage of cancer in which cancer cells have spread to healthy tissue adjacent to the tumor. It may still be considered localized if it has not spread to other parts of the body. Stage data presented in this report involve a diagnosis of invasive cancer: localized, regional, or distant. A diagnosis “in situ” is noninvasive and would not be included in the staging data.

- **Mortality:** Mortality refers to the number of deaths during a defined time, usually one year. For the purposes of this report, cancer mortality data are presented for calendar year 2001. Data for cancer mortality are also presented in an aggregated form as the average annual mortality for the years 1997 through 2001.
- **Primary prevention:** Primary prevention is preventing cancer before it has developed such as through avoiding carcinogens (e.g., avoiding tobacco, promoting a healthy lifestyle through exercise and diet), preventing the harmful effects of carcinogens (e.g., using sunscreen), and detecting and removing precancerous lesions (e.g., removing polyps in the colon).
- **Rate:** A rate is an estimate of the burden of a given disease on a defined population in a specified period of time. A crude rate is calculated by dividing the number of cases (events) by the population at risk during a given time period. Cancer incidence and mortality rates are usually presented per 100,000 population during a given time period. No crude rates are given in this report; all rates are age-adjusted. Incidence rate is the number of new cases during a specific period (usually one year) divided by the population at risk, standardized to a population of 100,000. Mortality rate is the number of deaths for a given period divided by the population at risk per 100,000 population. All rates presented in this report are age-adjusted to the 2000 U.S. standard population.
- **Region:** Following are definitions for the regional categories:

BALTIMORE METRO REGION

Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford, Howard

Note: Baltimore Metro Region does not include Baltimore City when used in Appendix H and for the incidence and mortality maps.

EASTERN SHORE REGION

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

NATIONAL CAPITAL REGION

Montgomery, Prince George's

NORTHWEST REGION

Allegany, Frederick, Garrett, Washington

SOUTHERN REGION

Calvert, Charles, Saint Mary's

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

- **Stage at Diagnosis:** The extent to which the cancer has spread from the organ of origin at the time of diagnosis. The stage information used in this report is based on the SEER Summary Stage Guidelines:
 1. **In situ:** the cancerous cells have not invaded the tissue basement membrane. In situ cancers are not considered malignant (with the exception of bladder cancers) and are not included in incidence rate calculations.
 2. **Localized:** the tumor is confined to the organ of origin.
 3. **Regional:** the tumor has spread to adjacent organs or tissue. Regional lymph nodes may also be involved.
 4. **Distant:** the tumor has spread beyond the adjacent organs or tissues. Distant lymph nodes, organs and/or tissues may also be involved.
 5. **Unstaged:** stage of disease at diagnosis was unable to be classified (often due to insufficient information) or not reported to the cancer registry.

Appendix E

Maryland Population Estimates, 2001

Maryland Population Estimates by County, 2001

	Total All Genders	Total Male	Total Female	Total White	White Male	White Female	Total Black	Black Male	Black Female
Maryland	5,386,079	2,602,472	2,783,607	3,575,438	1,752,132	1,823,306	1,546,650	723,280	823,370
Baltimore Metro	2,538,848	1,221,201	1,317,647	1,732,156	845,678	886,478	718,606	332,876	385,730
Anne Arundel County	497,580	247,860	249,720	412,909	205,700	207,209	69,267	34,846	34,421
Baltimore City	645,305	300,676	344,629	209,313	101,530	107,783	422,433	192,508	229,925
Baltimore County	763,113	361,633	401,480	570,864	272,713	298,151	163,161	74,690	88,471
Carroll County	154,639	76,369	78,270	149,097	73,486	75,611	3,685	2,001	1,684
Harford County	222,799	109,252	113,547	196,539	96,601	99,938	21,594	10,492	11,102
Howard County	255,412	125,411	130,001	193,434	95,648	97,786	38,466	18,339	20,127
Eastern Shore	402,441	196,471	205,970	330,103	161,431	168,672	67,314	32,526	34,788
Caroline County	30,042	14,695	15,347	25,329	12,484	12,845	4,364	2,035	2,329
Cecil County	88,365	43,738	44,627	83,871	41,503	42,368	3,507	1,762	1,745
Dorchester County	30,525	14,433	16,092	21,533	10,312	11,221	8,646	3,947	4,699
Kent County	19,486	9,339	10,147	16,065	7,779	8,286	3,257	1,478	1,779
Queen Anne's County	41,464	20,606	20,858	37,446	18,633	18,813	3,589	1,760	1,829
Somerset County	25,246	13,406	11,840	14,295	7,238	7,057	10,695	6,034	4,661
Talbot County	34,057	16,226	17,831	28,393	13,551	14,842	5,276	2,472	2,804
Wicomico County	85,475	40,777	44,698	63,460	30,420	33,040	20,318	9,511	10,807
Worcester County	47,781	23,251	24,530	39,711	19,511	20,200	7,662	3,527	4,135
National Capital	1,714,817	821,894	892,923	882,852	434,059	448,793	674,662	312,251	362,411
Montgomery County	895,021	429,482	465,539	636,188	308,474	327,714	141,002	64,650	76,352
Prince George's County	819,796	392,412	427,384	246,664	125,585	121,079	533,660	247,601	286,059
Northwest	439,454	219,118	220,336	404,349	198,016	206,333	28,457	17,904	10,553
Allegany County	74,431	37,009	37,422	69,891	33,621	36,270	4,023	3,126	897
Frederick County	202,441	99,559	102,882	184,331	90,571	93,760	13,584	6,808	6,776
Garrett County	29,747	14,677	15,070	29,492	14,529	14,963	172	112	60
Washington County	132,835	67,873	64,962	120,635	59,295	61,340	10,678	7,858	2,820
Southern	290,519	143,788	146,731	225,978	112,948	113,030	57,611	27,723	29,888
Calvert County	77,721	38,309	39,412	66,637	33,048	33,589	10,041	4,800	5,241
Charles County	125,232	61,314	63,918	86,287	42,792	43,495	35,224	16,849	18,375
St. Mary's County	87,566	44,165	43,401	73,054	37,108	35,946	12,346	6,074	6,272

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

Source: National Center for Health Statistics, SEER, 2001

Appendix F

U.S. Standard Population, 2000

2000 U.S. Standard Population

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

Source: National Center for Health Statistics, SEER, 2000

Appendix G

SEER Definitions (ICD Codes) of Site Categories

**ICD-O-3 and ICD-10 Codes Used to Classify Cancer Incidence and Mortality
(SEER Definitions of Site Categories)**

Cancer Site	ICD-O-3 Codes (Incidence)	ICD-10 Codes (Mortality)
Oral cavity and pharynx	C00.0 -- C14.8*	C00.0 -- C14.8
Esophagus	C15.0 -- C15.9*	C15.0 -- C15.9
Stomach	C16.0 -- C16.8*	C16.0 -- C16.9
Colon, rectum including anus	C17.0 -- C21.8*	C17.0 -- C21.8
Liver, gallbladder and bile-duct	C22.0 -- C24.9*	C22.0 -- C24.9
Pancreas	C25.0 -- C25.9*	C25.0 -- C25.9
Larynx	C32.0 -- C32.9*	C32.0 -- C32.9
Lung and bronchus	C34.0 -- C34.9*	C34.0 -- C34.9
Heart and other soft tissues	C38.0, C49.0 -- C49.9	C38.0, C49.0 -- C49.9
Bones and joints	C40.0 -- C41.9	C40.0 -- C41.9
Melanomas of the skin	C44.0 -- C44.9	C44.0 -- C44.9
Breast	C50.0 -- C50.9*	C50.0 -- C50.9
Cervix	C53.0 -- C53.9*	C53.0 -- C53.9
Uterus	C54.0 -- C54.9, 55.9*	C54.0 -- C54.9, C55
Ovary	C56.9*	C56
Prostate	C61.9*	C61
Testis	C62.0 -- C62.9*	C62.0 -- C62.9
Urinary bladder	C67.0 -- C67.9*	C67.0 -- C67.9
Kidney and renal pelvis	C64.9, C65.9*	C64, C65
Brain and other CNS [^]	C71.0 -- C72.9*	C71.0 -- C72.9
Thyroid gland	C73.9*	C73
Leukemia**	9800 -- 9948	C91.0 -- C95.9
Hodgkin's disease**	9650 -- 9667	C81.0 -- C81.9
Non-Hodgkin's lymphoma**	9670 -- 9729	C82.0 -- C85.9
Multiple myeloma**	9731 -- 9734	C90.0 -- C90.2

[^] Central nervous system.

*Site excludes ICD-O-3 morphology codes 8000-9989.

** Site has only morphology ICD-O-3 code(s) depending on the type of cell.

Most of mortality (ICD-10) codes are similar to cancer incidence topography (ICD-O-3) codes.

Note: There are many cancer incidence and cancer mortality codes for ill defined and unspecific sites which were not included in this table.

ICD-O-3: International Classification of Diseases for Oncology, 3rd Edition

ICD-10: International Classification of Diseases, 10th Edition

Appendix H

Maryland Cancer Incidence and Mortality: Rates and Confidence Intervals, 1997-2001

**All Cancer Sites Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	475.3	472.6	478.1
Northwest Region	478.3	469.1	487.5
Allegany	492.9	472.9	513.7
Frederick	476.9	461.9	492.3
Garrett	434.6	403.6	467.7
Washington	483.0	466.9	499.5
Baltimore Metropolitan Area**	489.0	484.4	493.6
Anne Arundel	491.7	482.2	501.3
Baltimore City	517.1	509.3	524.9
Baltimore County	499.7	492.9	506.6
Carroll	488.5	472.1	505.4
Harford	492.8	478.6	507.4
Howard	430.1	416.4	444.3
National Capital Area			
Montgomery	419.9	413.7	426.3
Prince George's	441.0	433.2	448.9
Southern Region	472.2	459.2	485.5
Calvert	490.8	465.7	517.1
Charles	469.0	448.5	490.4
Saint Mary's	464.0	441.4	487.5
Eastern Shore	497.2	487.9	506.7
Caroline	498.7	464.4	535.2
Cecil	479.5	457.5	502.4
Dorchester	523.1	491.2	556.9
Kent	448.5	412.1	488.2
Queen Anne's	476.0	446.8	507.0
Somerset	532.3	493.5	573.8
Talbot	498.8	470.5	529.0
Wicomico	500.3	479.1	522.2
Worcester	521.0	495.6	547.7

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Lung and Bronchus Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	70.4	69.3	71.4
Northwest Region	69.1	65.6	72.7
Allegany	78.2	70.6	86.6
Frederick	63.0	57.6	68.9
Garrett	62.5	51.3	75.9
Washington	71.1	65.1	77.6
Baltimore Metropolitan Area**	73.4	71.6	75.2
Anne Arundel	79.5	75.7	83.5
Baltimore City	92.3	89.1	95.7
Baltimore County	75.2	72.6	77.9
Carroll	63.4	57.5	69.8
Harford	75.8	70.3	81.8
Howard	58.4	53.2	64.1
National Capital Area			
Montgomery	45.2	43.2	47.4
Prince George's	60.9	57.9	63.9
Southern Region	76.7	71.4	82.3
Calvert	80.1	70.0	91.5
Charles	75.5	67.3	84.5
Saint Mary's	75.2	66.2	85.2
Eastern Shore	82.6	78.9	86.5
Caroline	81.2	67.7	96.8
Cecil	83.8	74.7	93.7
Dorchester	87.4	74.9	101.8
Kent	77.2	63.2	94.3
Queen Anne's	73.4	62.3	86.4
Somerset	104.0	87.3	123.4
Talbot	63.5	54.0	75.0
Wicomico	84.2	75.6	93.4
Worcester	91.4	81.3	102.9

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Colon and Rectum Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	55.7	54.7	56.6
Northwest Region	61.1	57.9	64.5
Allegany	63.5	56.6	71.2
Frederick	62.7	57.3	68.6
Garrett	55.6	45.0	68.4
Washington	59.7	54.2	65.6
Baltimore Metropolitan Area**	56.1	54.5	57.7
Anne Arundel	53.7	50.5	57.0
Baltimore City	59.3	56.7	61.9
Baltimore County	58.9	56.6	61.3
Carroll	56.8	51.2	62.8
Harford	55.7	50.9	60.9
Howard	47.9	43.2	53.1
National Capital Area			
Montgomery	43.5	41.5	45.6
Prince George's	57.4	54.5	60.4
Southern Region	60.4	55.6	65.4
Calvert	58.5	49.7	68.5
Charles	54.5	47.5	62.5
Saint Mary's	69.4	60.6	79.2
Eastern Shore	59.3	56.1	62.7
Caroline	76.7	63.6	91.9
Cecil	56.0	48.6	64.4
Dorchester	71.0	59.8	84.3
Kent	45.0	34.5	58.8
Queen Anne's	62.9	52.4	75.4
Somerset	63.3	50.5	78.9
Talbot	62.7	53.2	74.3
Wicomico	49.9	43.4	57.2
Worcester	58.8	50.7	68.4

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

Female Breast Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	132.8	130.9	134.7
Northwest Region	130.4	123.9	137.1
Baltimore Metro Region**	137.0	133.7	140.3
Baltimore City	126.8	121.8	132.1
Montgomery County	137.9	133.2	142.8
Prince George's County	122.3	117.2	127.6
Southern Region	123.4	114.8	132.5
Eastern Shore Region	133.2	126.6	140.1

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Prostate Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	178.6	176.0	181.2
Northwest Region	160.5	152.4	169.0
Baltimore Metro Region**	176.2	172.0	180.6
Baltimore City	195.4	187.9	203.2
Montgomery County	174.5	168.3	180.9
Prince George's County	199.7	191.4	208.4
Southern Region	177.2	164.9	190.5
Eastern Shore Region	153.6	146.0	161.6

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Oral Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	10.7	10.3	11.1
Northwest Region	8.9	7.7	10.3
Baltimore Metro Region**	10.4	9.8	11.1
Baltimore City	15.8	14.4	17.2
Montgomery County	8.5	7.6	9.4
Prince George's County	9.3	8.2	10.5
Southern Region	11.2	9.3	13.4
Eastern Shore Region	12.3	10.8	13.8

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Melanoma Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	16.9	16.4	17.4
Northwest Region	19.9	18	21.8
Baltimore Metro Region**	21.2	20.3	22.2
Baltimore City	8.6	7.6	9.6
Montgomery County	16.4	15.2	17.6
Prince George's County	6.7	5.8	7.8
Southern Region	16	13.8	18.5
Eastern Shore Region	25.2	23.1	27.4

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**Cervical Cancer Incidence
Age-Adjusted Incidence Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Incidence Rates*	95% Confidence Interval	
		Lower CI	Upper CI
Maryland	8.3	7.8	8.8
Northwest Region	8.6	7	10.5
Baltimore Metro Region**	7	6.3	7.8
Baltimore City	11.8	10.3	13.5
Montgomery County	6.8	5.8	7.9
Prince George's County	8.7	7.4	10.2
Southern Region	8.6	6.5	11.2
Eastern Shore Region	10.1	8.3	12.2

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

** Region does not include data for Baltimore City

Source: Maryland Cancer Registry, 1997-2001

**All Cancer Sites Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	50,810	209.9	208.1	211.8
Northwest Region	4,303	197.5	191.6	203.5
Allegany	1,000	198.0	185.8	211.0
Frederick	1,506	192.2	182.5	202.2
Garrett	318	184.7	164.9	206.5
Washington	1,479	205.9	195.6	216.8
Baltimore Metropolitan Area**	18,207	210.3	207.2	213.4
Anne Arundel	4,402	218.1	211.6	224.8
Baltimore City	8,959	270.0	264.4	275.6
Baltimore County	9,085	214.4	210.0	218.9
Carroll	1,318	196.9	186.4	207.9
Harford	1,842	206.3	196.8	216.3
Howard	1,561	190.1	180.5	200.2
National Capital Area				
Montgomery	6,341	157.3	153.5	161.3
Prince George's	5,887	215.3	209.6	221.1
Southern Region	2,255	220.1	210.9	229.7
Calvert	611	215.3	198.3	233.6
Charles	983	239.6	224.4	255.8
Saint Mary's	661	201.3	186.0	217.6
Eastern Shore	4,857	220.9	214.7	227.3
Caroline	359	227.8	204.8	252.9
Cecil	883	244.7	228.6	261.7
Dorchester	466	230.4	209.8	252.9
Kent	257	187.2	164.7	212.8
Queen Anne's	421	205.3	186.0	226.5
Somerset	322	243.5	217.6	272.2
Talbot	479	187.0	170.4	205.5
Wicomico	951	227.7	213.5	242.7
Worcester	719	220.3	204.1	237.8

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Lung and Bronchus Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	14,438	59.4	58.4	60.3
Northwest Region	1,239	56.7	53.6	60.0
Allegany	302	59.7	53.1	67.1
Frederick	417	53.0	48.0	58.4
Garrett	92	52.8	42.5	65.2
Washington	428	59.3	53.8	65.2
Baltimore Metropolitan Area**	5,366	61.6	59.9	63.2
Anne Arundel	1,355	66.4	62.9	70.1
Baltimore City	2,697	81.2	78.1	84.3
Baltimore County	2,688	63.1	60.7	65.6
Carroll	356	53.6	48.1	59.5
Harford	559	61.0	56.0	66.4
Howard	409	51.2	46.2	56.6
National Capital Area				
Montgomery	1,417	35.6	33.8	37.5
Prince George's	1,556	56.3	53.5	59.3
Southern Region	654	63.0	58.2	68.2
Calvert	192	67.6	58.3	78.1
Charles	293	69.9	61.9	78.7
Saint Mary's	169	50.8	43.3	59.2
Eastern Shore	1,508	67.5	64.2	71.0
Caroline	121	76.8	63.7	92.0
Cecil	269	71.7	63.3	81.0
Dorchester	136	67.0	56.1	79.9
Kent	83	60.3	47.9	76.0
Queen Anne's	129	60.9	50.8	72.9
Somerset	109	82.0	67.3	99.5
Talbot	117	45.3	37.4	55.2
Wicomico	315	74.8	66.8	83.6
Worcester	229	66.4	57.9	76.2

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

**Colon and Rectum Cancer Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	5,505	23.1	22.5	23.7
Northwest Region	518	23.8	21.8	26.0
Allegany	131	25.5	21.3	30.5
Frederick	185	24.1	20.7	27.9
Garrett	45	26.3	19.1	35.6
Washington	157	21.8	18.5	25.5
Baltimore Metropolitan Area**	1,936	22.8	21.8	23.8
Anne Arundel	427	21.8	19.8	24.1
Baltimore City	957	28.8	27.0	30.7
Baltimore County	1,014	23.8	22.3	25.3
Carroll	155	23.2	19.7	27.3
Harford	190	22.1	19.0	25.7
Howard	150	19.5	16.5	23.1
National Capital Area				
Montgomery	648	16.1	14.9	17.4
Prince George's	679	26.1	24.1	28.3
Southern Region	255	26.1	22.9	29.6
Calvert	68	25.6	19.8	32.7
Charles	108	27.7	22.6	33.8
Saint Mary's	79	24.8	19.6	31.1
Eastern Shore	512	23.5	21.5	25.6
Caroline	48	30.4	22.4	40.6
Cecil	85	24.1	19.2	30.1
Dorchester	54	26.1	19.6	34.8
Kent	23	16.0	10.1	25.4
Queen Anne's	42	21.2	15.2	29.2
Somerset	29	21.9	14.6	32.2
Talbot	59	23.2	17.6	31.0
Wicomico	91	22.1	17.8	27.2
Worcester	81	25.2	19.9	31.9

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

**Female Breast Cancer Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001**

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	4,025	28.5	27.6	29.4
Northwest Region	313	25.4	22.7	28.4
Baltimore Metro Region**	1,394	27.8	26.3	29.3
Baltimore City	702	36.1	33.5	38.9
Montgomery County	599	25.2	23.2	27.4
Prince George's County	517	29.4	26.9	32.2
Southern Region	157	26.0	22.0	30.5
Eastern Shore Region	343	28.2	25.3	31.4

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Prostate Cancer Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	2,868	34.3	33.0	35.7
Northwest Region	220	28.9	25.1	33.2
Baltimore Metro Region**	930	31.1	29.0	33.2
Baltimore City	586	50.1	46.1	54.5
Montgomery County	357	24.8	22.2	27.5
Prince George's County	336	41.0	36.4	46.2
Southern Region	133	39.8	33.0	47.8
Eastern Shore Region	306	38.0	33.7	42.7

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Oral Cancer Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	755	3.1	2.9	3.3
Northwest Region	51	2.3	1.7	3.1
Baltimore Metro Region**	245	2.8	2.5	3.2
Baltimore City	191	5.8	5.0	6.7
Montgomery County	71	1.8	1.4	2.2
Prince George's County	90	3.1	2.5	3.9
Southern Region	41	3.6	2.6	5.0
Eastern Shore Region	66	2.9	2.3	3.8

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Melanoma Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	612	2.5	2.3	2.7
Northwest Region	52	2.4	1.8	3.1
Baltimore Metro Region**	246	2.8	2.4	3.1
Baltimore City	55	1.7	1.2	2.2
Montgomery County	105	2.6	2.1	3.1
Prince George's County	40	1.4	1.0	2.0
Southern Region	38	3.3	2.3	4.7
Eastern Shore Region	76	3.5	2.8	4.5

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Cervical Cancer Mortality
Number of Cancer Deaths and Age-Adjusted Mortality Rates*
by Geographical Area, Maryland, 1997-2001

Geographical Area	Number of Deaths	Mortality Rates*	95% Confidence Interval	
			Lower CI	Upper CI
Maryland	391	2.8	2.5	3.1
Northwest Region	41	3.5	2.5	4.8
Baltimore Metro Region**	92	1.8	1.5	2.2
Baltimore City	108	5.9	4.8	7.1
Montgomery County	36	1.5	1.0	2.1
Prince George's County	53	2.7	2.0	3.6
Southern Region	12	1.9	1.0	3.4
Eastern Shore Region	49	4.2	3.1	5.6

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

** Region does not include data for Baltimore City

Source: Maryland Division of Health Statistics, 1997-2001

Appendix I

Maryland Trend in Age-Adjusted Cancer Incidence and Mortality Rates by Cancer Site and Year, 1997-2001

Maryland Trend in Age-Adjusted Cancer Incidence and Mortality Rates by Cancer Site and Year, 1997-2001

Table 1: Age-Adjusted Cancer Incidence Rates, by Cancer Site and Year Maryland, 1997- 2001

Cancer Site	Age-Adjusted Cancer Incidence Rates						
	1997	1998	1999	2000	2001	% Change* 1997 - 2001	Trend
All Cancer Sites	515.0	484.0	476.8	486.0	444.4	-2.9%	↓
Lung	78.8	72.4	71.6	71.1	62.5	-4.7%	↓
Colorectal	61.2	58.1	53.3	56.2	52.5	-3.3%	↓
Breast	146.7	139.0	137.0	133.0	121.6	-4.1%	↓
Prostate	186.6	169.7	185.3	187.2	170.7	-0.8%	--
Oral	11.9	11.1	10.9	11.1	9.4	-4.6%	↓
Melanoma	16.8	15.2	17.5	17.2	18.6	3.3%	↑
Cervical	9.9	9.0	8.2	7.9	7.0	-7.9%	↓

Source: Maryland Cancer Registry, 1997- 2001

* % Change reflects Estimated Annual Percent Change (EAPC)

Table 2: Age-Adjusted Cancer Mortality Rates, by Cancer Site and Year Maryland, 1997- 2001

Cancer Site	Age-Adjusted Cancer Mortality Rates						
	1997	1998	1999	2000	2001	% Change* 1997 - 2001	Trend
All Cancer Sites	219.7	217.5	211.7	209.1	202.2	-2.0%	↓
Lung	61.4	62.9	59.4	59.5	56.8	-2.1%	↓
Colorectal	24.5	23.9	22.5	23.9	21.6	-2.5%	↓
Breast	31.1	30.6	28.5	27.7	27.3	-3.5%	↓
Prostate	37.9	36.1	34.1	31.9	31.3	-4.9%	↓
Oral	3.8	3.1	3.0	3.0	2.8	-6.2%	↓
Melanoma	2.5	2.3	2.3	2.7	2.7	3.2%	↑
Cervical	3.5	2.7	2.8	2.3	2.8	-5.9%	↓

Source: Maryland Cancer Registry, 1997- 2001

* % Change reflects Estimated Annual Percent Change (EAPC)

Appendix J

Maryland Trend in Cancer Stage of Disease at Diagnosis by Year for Each Cancer Site, 1996-2001

**Maryland Trend In Cancer Stage of Disease at Diagnosis by
Year for each Cancer Site, 1996-2001**

**Table 1: All Cancer Sites by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	43.3	44.0	41.3	41.4	43.8	41.9
Regional	22.2	22.4	21.9	20.8	20.9	20.6
Distant	18.3	18.1	17.1	16.5	16.5	16.7
Unstaged	16.3	15.6	19.7	21.4	18.8	20.8

Source: Maryland Cancer Registry, 1996- 2001

**Table 2: Lung Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	20.7	22.5	22.3	21.0	22.3	19.8
Regional	28.0	27.8	27.7	26.7	26.3	28.3
Distant	37.1	36.8	35.9	35.8	35.0	36.1
Unstaged	14.2	12.8	14.1	16.6	16.4	15.7

Source: Maryland Cancer Registry, 1996- 2001

**Table 3: Colorectal Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	32.4	32.5	32.8	30.4	31.4	30.1
Regional	41.2	41.3	40.1	37.8	40.0	38.4
Distant	17.7	17.5	15.3	17.8	14.9	14.6
Unstaged	8.6	8.7	11.8	14.1	13.7	16.9

Source: Maryland Cancer Registry, 1996- 2001

**Table 4: Breast Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	60.6	61.6	59.2	58.4	57.8	56.4
Regional	27.9	27.7	26.4	26.4	28.4	28.2
Distant	4.6	4.1	4.4	3.2	3.8	3.7
Unstaged	6.9	6.6	10.0	12.0	10.1	11.7

Source: Maryland Cancer Registry, 1996- 2001

**Maryland Trend In Cancer Stage of Disease at Diagnosis by
Year for each Cancer Site, 1996-2001**

**Table 5: Prostate Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	68.7	66.9	58.2	58.4	68.4	62.2
Regional	11.0	9.9	8.5	7.2	6.8	5.8
Distant	5.3	5.0	3.5	2.8	2.8	2.5
Unstaged	15.0	18.3	29.8	31.5	22.1	29.5

Source: Maryland Cancer Registry, 1996- 2001

**Table 6: Oral Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	35.3	37.7	36.4	34.7	37.0	34.6
Regional	48.1	45.0	41.0	44.7	44.5	43.9
Distant	5.7	6.6	5.9	5.0	6.1	4.8
Unstaged	10.9	10.7	16.8	15.6	12.4	16.7

Source: Maryland Cancer Registry, 1996- 2001

**Table 7: Melanoma Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	54.1	45.1	47.7	43.6	57.6	51.4
Regional	3.1	5.6	6.1	7.0	4.9	5.7
Distant	3.8	2.4	3.2	2.5	3.3	3.0
Unstaged	39.1	46.8	43.1	47.0	34.1	40.0

Source: Maryland Cancer Registry, 1996- 2001

**Table 8: Cervical Cancer by Percent of Stage of Cancer at Diagnosis and Year
Maryland, 1996- 2001**

Stage	Year					
	1996	1997	1998	1999	2000	2001
	%	%	%	%	%	%
Local	51.8	55.4	51.6	40.3	46.9	42.4
Regional	26.9	24.7	23.4	28.3	26.1	24.4
Distant	9.4	5.2	7.7	9.7	6.6	6.8
Unstaged	11.9	14.6	17.3	21.7	20.4	26.3

Source: Maryland Cancer Registry, 1996- 2001