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# **Cancer Incidence In Virginia 1995-1996**

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# Section I

## Introduction



## **What is the Virginia Cancer Registry?**

The Virginia Cancer Registry (VCR) collects, analyzes and disseminates information about the occurrence of cancer in the Commonwealth of Virginia. The Virginia Cancer Registry exists to:

- provide data for the planning and evaluation of cancer control activities,
- provide community-based information regarding cancer incidence,
- promote cancer-related research and provide data for research studies,
- provide support and training to hospital registries,
- provide guidance to hospitals seeking American College of Surgeons approval,
- educate allied health professionals, health managers, and physicians about cancer reporting and data usage.

The Virginia Cancer Registry has collected demographic and clinical information on cancer patients diagnosed or treated in Virginia since 1970. The VCR became a population-based registry in 1990 when reporting of newly-diagnosed cancer cases was made mandatory for hospitals, clinics, and pathology laboratories. In order to improve the completeness of case reporting to the VCR, in 1998 the Virginia legislature amended the cancer registry law to require reporting by physician offices in certain instances (*Code of Virginia* Section 32.1-70). As a population-based cancer

registry, the VCR is dedicated to the fulfillment of its legislative intent--to accurately monitor the incidence of cancer in the Commonwealth of Virginia for the purposes of understanding, controlling, and reducing the occurrence of cancer in the state. Since 1990, additional funding for the VCR has been provided by the Centers for Disease Control and Prevention's National Program of Cancer Registries.

This publication is based on cancers diagnosed for Virginia residents during the years of 1995 and 1996 and reported to the Virginia Cancer Registry. Information is provided for total cancer and for the ten most frequently reported sites of invasive cancer diagnosed in Virginia residents. The ten most frequently reported sites of invasive cancer during this period were urinary bladder, female breast, buccal cavity and pharynx, colon and rectum, kidney and renal pelvis, lung and bronchus, skin (melanoma only), prostate, uterus, and non-Hodgkin's lymphoma. Although cervical cancer is not one of the most frequent sites of invasive cancer, it is included due to the strong interest of the public, researchers, and policymakers.

The data in this report are provisional, as facilities may continue to report additional cases diagnosed in this two-year period.

## **Cancer Prevention and Control**

Illness and death due to cancer are increasingly preventable through application of growing knowledge about the causes of cancer, improved screening and early diagnostic techniques, and more effective treatment. Cancer prevention includes various types of strategies designed to reduce the disease burden. These strategies may be directed at: 1) preventing a healthy individual from developing cancer (primary prevention), or 2) detecting cancer as early as possible when it can be treated most effectively and with the fewest side effects (secondary prevention).

Primary prevention rests on the removal of lifestyle or other factors that increase the risk of developing cancer. Present knowledge suggests that major reductions in population cancer rates and in an individual's likelihood of developing cancer are achievable through primary prevention strategies. For example, the elimination of tobacco use would reduce the lung cancer death rate by over eighty-five percent and would markedly reduce rates of cancers of the oral cavity and pharynx, esophagus, bladder, kidney, pancreas, and cervix. According to the American Cancer Society, a diet that is low in fat, high in fiber, and includes five or more servings per day of fruits and vegetables is likely to reduce the risk of cancers of the colon and rectum, lung, prostate, bladder, esophagus, stomach, and other organs. Regular, moderate exercise has also shown benefits in the prevention of cancer for a number of sites. The overall health benefit of these habits makes them wise choices for cancer prevention.

Secondary prevention refers to interventions that detect emerging tumors at

an early stage, when they can be treated with the best likelihood of a cure. Screening for early detection has a clear role in reducing the disease burden due to cancers of the female breast and the cervix. The effectiveness of screening for cancer of the colon and rectum and prostate cancer is being increasingly recognized. For many other cancers, however, the advisability of routine tests remains controversial and recommendations by various authorities differ. The table on the following page shows the American Cancer Society's recommendations for the early detection of cancer in persons without symptoms who have an average risk for cancer.

While individual responsibility plays an important role in cancer prevention, government agencies, non-profit organizations, health care providers, and researchers have essential roles as well. Agencies such as the Virginia Department of Health create programs that promote screening and educational activities, and assure access to personal health services. Government agencies also create policies and regulations that minimize environmental hazards such as cigarette smoke, and control occupational exposure to carcinogens. Non-profit organizations provide education to health care providers and to the public, and maintain support services for cancer patients and their families. Researchers investigate new ways of detecting and treating cancer, and search for clues to the causes of cancer. Health care providers deliver care, perform screening tests, and educate patients and their families. The war on cancer requires collaboration between these and many other entities. The Virginia Cancer Registry

provides current, accurate data on the burden of cancer in Virginians to these and many other organizations and individuals. Information provided by the Virginia Cancer Registry is the foundation for public

awareness and education campaigns; research studies evaluating causes, detection, and treatment of cancer; and other cancer control initiatives.

<b>American Cancer Society Recommendations for the Early Detection of Cancer in Average Risk, Asymptomatic People</b>			
<b>Cancer Site</b>	<b>Population</b>	<b>Test or Procedure</b>	<b>Frequency</b>
Breast	Women, age 20+	Breast self-examination	Monthly, starting at age 20
		Clinical breast examination	Every 3 years, ages 20-39 Annual, starting at age 40*
		Mammography	Annual, starting at age 40
Colorectal	Men & women, age 50+	Fecal occult blood test & flexible sigmoidoscopy	Annual fecal occult blood test and flexible sigmoidoscopy at age 50; thereafter, fecal occult blood test every year and flexible sigmoidoscopy every 5 years
		-or-	
		Double contrast barium enema†	Double contrast barium enema at age 50; thereafter, every 5-10 years
		-or-	
		Colonoscopy‡	Colonoscopy ever 10 years starting at age 50
Prostate	Men, age 50+	Digital rectal examination & prostate specific antigen test	Annual digital rectal examination and prostate specific antigen test should be offered to men starting at age 50‡
Cervix	Women, age 18+	Pap test & pelvic examination	All women who are, or have been, sexually active, or have reached age 18 should have an annual Pap test and pelvic examination. After a woman has had 3 or more consecutive satisfactory normal annual examinations, the Pap test may be performed less frequently at the discretion of the physician.
Cancer-related check-up	Men & women, age 20+	Examinations every 3 years from ages 20 to 39 years and annually after age 40. The cancer-related check-up should include: Examination for cancers of the thyroid, testicles, ovaries, lymph nodes, oral cavity, and skin, as well as health counseling about tobacco, sun exposure, diet and nutrition, risk factors, sexual practices, and environmental and occupational exposures.	

\*Beginning at age 40, annual clinical breast examination should be performed prior to mammography.

†Digital rectal examination should be performed at the time of sigmoidoscopy, barium enema, and colonoscopy.

‡Information should be provided to men regarding potential risks and benefits of screening.

American Cancer Society, 2000.

## **Definitions**

The technical notes in Appendix A contain additional information on case ascertainment and health district composition.

### *Reportable Cancer Cases*

The *Regulations for Disease Reporting and Control (1999)* define cancer as “all carcinomas, sarcomas, melanomas, leukemias, and lymphomas excluding localized basal and squamous cell carcinomas of the skin, except for lesions of the mucous membranes.” Any cancer meeting this definition must be reported to the VCR. Benign tumors of the brain and central nervous system are also reportable to the VCR, as well as localized basal and squamous cell skin carcinomas greater than five centimeters at the time of diagnosis. Skin cancer diagnosed at the regional or distant stages as well as any other type of skin malignancy, such as melanomas, mycosis fungoides, Kaposi’s sarcoma, should also be reported.

### *Cancer Site Categories*

To facilitate data interpretation and comparison, the VCR uses standard categories to analyze the site of the body in which the cancer originally began. The National Cancer Institute’s Surveillance Epidemiology and End Results (SEER) Program has established these categories. Most cancers are grouped by the anatomical site (prostate, lung and bronchus, etc.), but some cancers, such as lymphomas and leukemias, are grouped by their cell type. Please see Appendix B for the SEER definition of site categories.

### *Incidence Rate*

A cancer incidence rate reflects the number of new cases diagnosed per 100,000 individuals in a given area over a defined time period. Cancer rates tend to vary substantially by age, with higher rates for most cancers noted in older populations. This report provides both age-specific and age-adjusted annual incidence rates. Age-specific rates denote the incidence of cancer among persons within specific age categories (typically 0-4 years, 5-9 years, 10-14 years, etc., up to 85+ years). Age-adjusted rates are calculated by mapping age-specific rates onto a standard population to remove the effect of different age structures and to arrive at a single summary measure that may be used for comparison. All age-adjusted incidence rates were calculated by the direct method, using the age distribution of the 1970 United States population as the standard (See Appendix C). Rates were calculated by sex, race, health district, and stage at diagnosis. Annual race-, sex-, and age-specific county population estimates from the U.S. Census Bureau (1999 release) were summed to produce state and health district population-at-risk figures (see Appendix D). **Except where noted, all incidence rates are expressed per 100,000 persons per year and exclude in situ carcinomas except urinary bladder.**

### *Mortality Rate*

A cancer mortality rate reflects the number of deaths due to cancer per 100,000 individuals in a given area over a defined time period. Cancer death rates also tend to vary substantially by age, with higher rates for

most cancers noted in older populations. This report provides the age-adjusted mortality rates for selected types of cancer. Mortality rates were age-adjusted by the same method used for incidence rates. Except where noted, all mortality rates are expressed per 100,000 persons per year and exclude in situ carcinomas except urinary bladder. Age-adjusted mortality rates were calculated using data obtained from the Virginia Center for Health Statistics.

### *Summary Stage*

Cancer stage is the categorization of malignant tumors based on how far they have spread from the site of origin at the time of diagnosis. Identifying the stage of cancer at diagnosis is useful in evaluating prognosis and choosing treatment. In this publication, stage is categorized according to SEER convention, as follows:

- **In situ** – A malignant tumor that does not invade or penetrate surrounding tissue.
- **Local** – An invasive tumor confined to the site of origin.
- **Regional** – A tumor that has spread by direct extension to immediately adjacent organs or tissues and/or metastasized (spread through the bloodstream) to regional lymph nodes, but appears not to have spread any further.
- **Distant** – A tumor that has spread by direct extension beyond the immediately adjacent organs or tissues, and/or metastasized to distant lymph nodes or other distant tissues.
- **Unstaged** – Insufficient information available to determine the stage of disease at diagnosis.

Stage distributions, including in situ cancers, are provided for selected sites in Section III. Cancers staged as local, regional, or distant are commonly referred to as “invasive.” This report focuses on invasive cancer but does include in situ cancer of the bladder. Section IV provides additional data on incidence by stage at diagnosis and by health district, as well as mortality information.

### *Race and Ethnicity Grouping*

The Virginia Cancer Registry collects specific information on race and ethnicity. Such detail is not readily available from all reporting sources, and many groups are undercounted or misclassified. Therefore, cancer incidence statistics may be incomplete for certain specific racial and ethnic groups and may not accurately reflect the true cancer burden in these populations. Due to these limitations, race-specific rates in this report are calculated for Whites, Blacks, and all other races combined. According to the modified 1990 U.S. Census data of September 1999, 76.0% of Virginia’s population was White, 20.1% Black, and 3.9% was of another race, including Asian/Pacific Islander and Native American/Alaskan Native. Note that persons of Hispanic ethnicity may be included in any racial category.

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# Section II

## Incidence of Reportable Cancer in Virginia: An Overview



## **Summary of Cancer Incidence**

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. The various forms of cancer were responsible for 25,164 deaths among Virginia residents from 1995 to 1996, and accounted for 24% of all deaths to Virginia residents during that time period (Virginia Center for Health Statistics). During these two years, 24,078 new cases of invasive cancer were reported among Virginia residents. Incidence was higher for males than for females. Blacks also showed a slightly higher incidence rate than whites or persons of another race. The four most commonly diagnosed forms of cancer were lung and bronchus, breast (female), prostate, and colon and rectum. These four cancers combined accounted for over half of all new cancers diagnosed between 1995 and 1996.

Cancer of the lung and bronchus was the most commonly reported cancer in Virginia during 1995 and was the second most frequently reported cancer in 1996. During these two years, almost 8,000 Virginia residents were diagnosed with the disease, and over 7,000 Virginians died as a result of cancer of the lung and bronchus. This cancer was the most common cause of cancer death among all Virginians, and, in fact, accounted for over half of all cancer deaths. The incidence rate in males was nearly double that of females for both years.

Female breast cancer was the second most frequently reported cancer in Virginia residents in 1995 and was the most commonly reported cancer in 1996. During these two years, over 7,000 Virginia women were diagnosed with breast cancer, and over

2,000 women died from the disease. In Virginia females, breast cancer was the most commonly diagnosed cancer, and was the second leading cause of cancer death.

The third most commonly reported cancer in Virginia residents was cancer of the prostate. During these two years, just over 7,000 male residents were diagnosed with the disease, while nearly 1,600 men died as a result of the cancer. In Virginia males, prostate cancer was the most commonly diagnosed cancer, and was the second leading cause of cancer death.

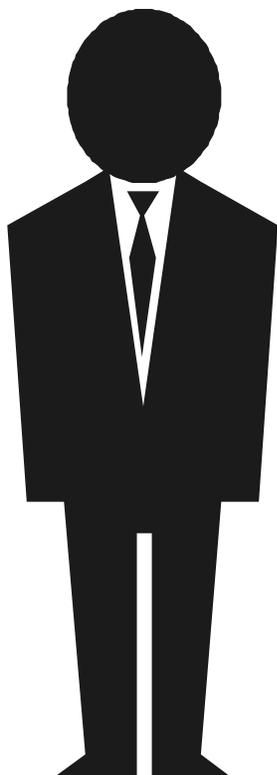
Cancer of the colon and rectum was the fourth most commonly reported cancer in Virginia residents from 1995 to 1996. During these two years, over 5,000 Virginians were diagnosed with the disease, and almost 2,500 residents died from colorectal cancer. In Virginia residents, colorectal cancer was the second leading cause of cancer death overall. The incidence rates were slightly higher for males and for the black population.

On the following pages, more detailed information is presented about these and other types of cancers. On the table on page 16, the number of new cases and the percentage of all cancer cases are given for each major cancer type for 1995 and 1996. The tables on page 17 provide this information for the ten most commonly diagnosed cancers among males and among females.

Distribution of Reported Cancer, Virginia, 1995-1996  
 Number and Percentage of Cases By Site and Year of Diagnosis  
 Total Population

SITE	1995		1996	
	Cases	%	Cases	%
Lung and Bronchus	3,921	16.3	3,920	15.7
Female Breast	3,804	15.8	3,978	16.0
Prostate	3,524	14.6	3,496	14.0
Colon and Rectum	2,719	11.3	2,903	11.6
Urinary Bladder	1,003	4.2	991	4.0
Non-Hodgkin's Lymphoma	890	3.7	960	3.9
Melanoma of the Skin	755	3.1	828	3.3
Uterus	688	2.9	668	2.7
Oral Cavity and Pharynx	658	2.7	693	2.8
Kidney and Renal Pelvis	545	2.3	590	2.4
Ovary	487	2.0	456	1.8
Pancreas	431	1.8	485	1.9
Leukemia	407	1.7	463	1.9
Stomach	362	1.5	386	1.5
Brain and Other Nervous System	347	1.4	332	1.3
Cervix	319	1.3	346	1.3
Larynx	319	1.3	334	1.4
Esophagus	311	1.3	310	1.2
Multiple Myeloma	269	1.1	243	1.0
Thyroid	260	1.1	296	1.2
Liver and Intrahepatic Bile Duct	178	0.7	212	0.9
Hodgkin's Disease	163	0.7	169	0.7
Testis	162	0.7	144	0.6
Other	1,556	6.5	1,716	6.9
<b>TOTAL</b>	<b>24,078</b>		<b>24,919</b>	

*Note.* Data exclude localized basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.



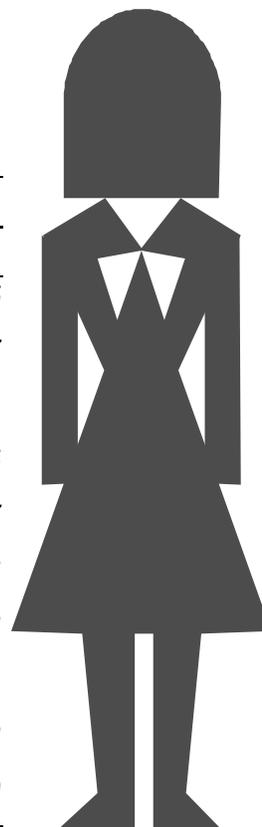
Distribution of Reported Cancer, Virginia, 1995-1996  
 Number and Percentage of Cases By Site and Year of Diagnosis  
 Ten Most Commonly Reported Sites--Males

SITE	1995		1996	
	Cases	%	Cases	%
Prostate	3,524	28.3	3,496	27.6
Lung/Bronchus	2,409	19.4	2,366	18.7
Colon/Rectum	1,328	10.7	1,406	11.1
Urinary Bladder	706	5.7	714	5.6
Non-Hodgkin's Lymphoma	470	3.8	514	4.1
Oral Cavity and Pharynx	462	3.7	470	3.7
Melanoma of the Skin	445	3.6	433	3.4
Kidney/Renal Pelvis	345	2.8	381	3.0
Larynx	251	2.0	263	2.1
Esophagus	234	1.9	247	1.9

Note. Data exclude localized basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.

Distribution of Reported Cancer, Virginia, 1995-1996  
 Number and Percentage of Cases By Site and Year of Diagnosis  
 Ten Most Commonly Reported Sites--Females

SITE	1995		1996	
	Cases	%	Cases	%
Breast	3,804	32.7	3,978	32.5
Lung/Bronchus	1,512	13.0	1,554	12.7
Colon/Rectum	1,391	12.0	1,497	12.2
Uterus	688	5.9	668	5.5
Ovary	487	4.2	456	3.7
Non-Hodgkin's Lymphoma	420	3.6	446	3.6
Cervix	319	2.7	346	2.8
Melanoma of the Skin	310	2.7	395	3.2
Urinary Bladder	297	2.6	277	2.3
Pancreas	220	1.9	241	2.0



Note. Data exclude localized basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.



# Section III

## Descriptive Epidemiology of Invasive Cancer for Selected Sites

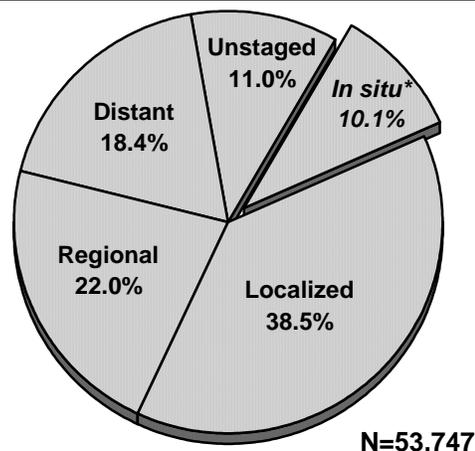
## All Sites Combined

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	24,078	341.2	24,919	347.0
Male	12,438	408.7	12,674	408.0
Female	11,640	295.1	12,245	305.5
White	18,762	326.5	19,601	335.6
Black	4,345	382.3	4,459	384.5
Other	400	242.4	396	220.1

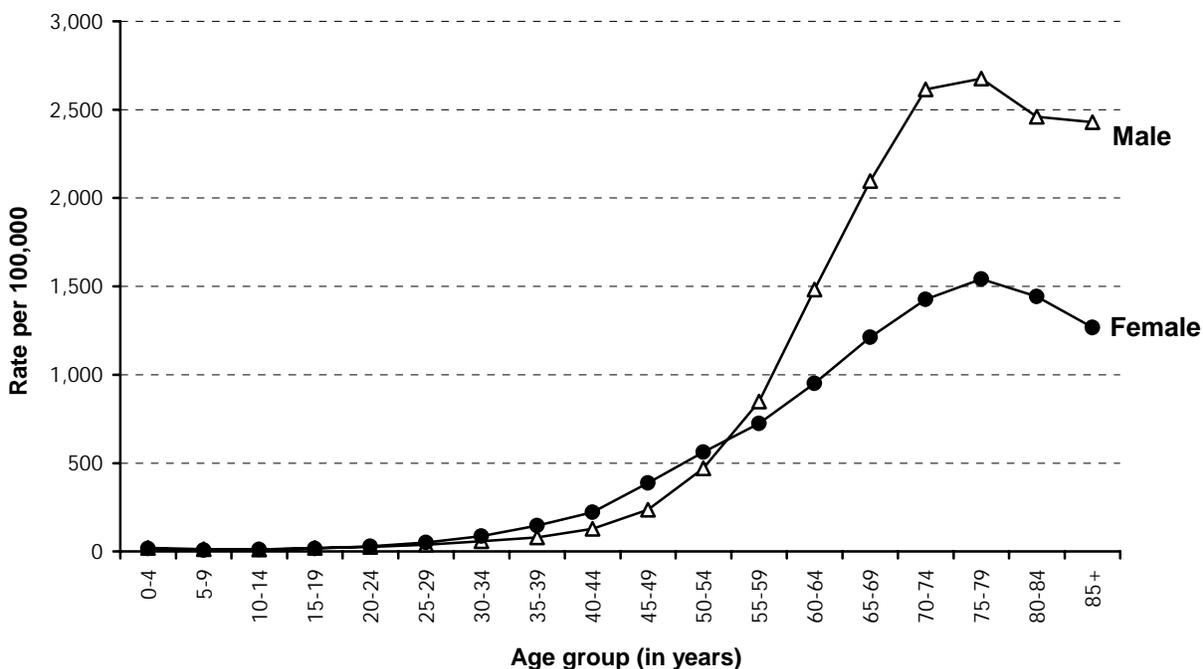
Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude localized basal and squamous cell skin cancers and in situ carcinomas except urinary bladder.

**Percentage of Cases by Stage at Diagnosis for All Sites Combined, 1995-1996**



\*In situ cancers except urinary bladder have been excluded from all rates presented.

**Invasive Cancer, All Sites Combined, 1995-1996 Age-Specific Incidence Rate by Sex**



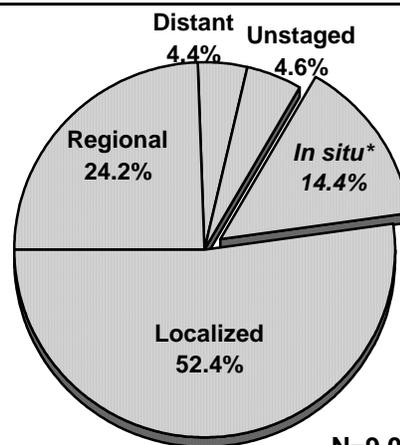
## Female Breast Cancer

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Race and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	3,804	97.0	3,978	100.8
White	3,057	97.0	3,236	102.6
Black	639	95.3	651	94.6
Other	66	59.5	56	45.6

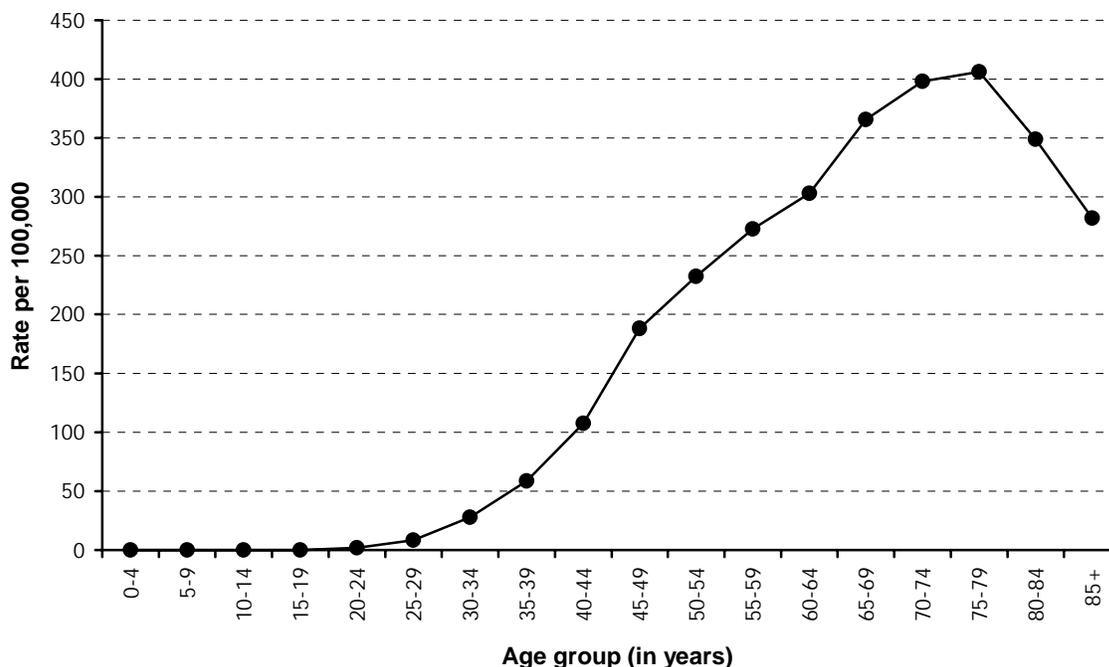
Note. Rates are per 100,000 female population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Female Breast Cancer, 1995-1996 Age-Specific Incidence Rate**



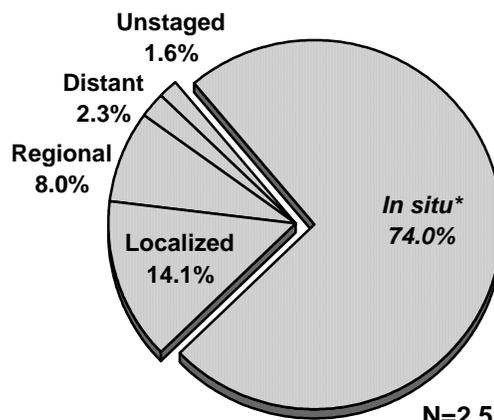
## Cancer of the Cervix

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Race and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	319	7.8	346	8.3
White	215	6.7	240	7.4
Black	83	11.4	73	9.9
Other	13	15.6	23	18.4

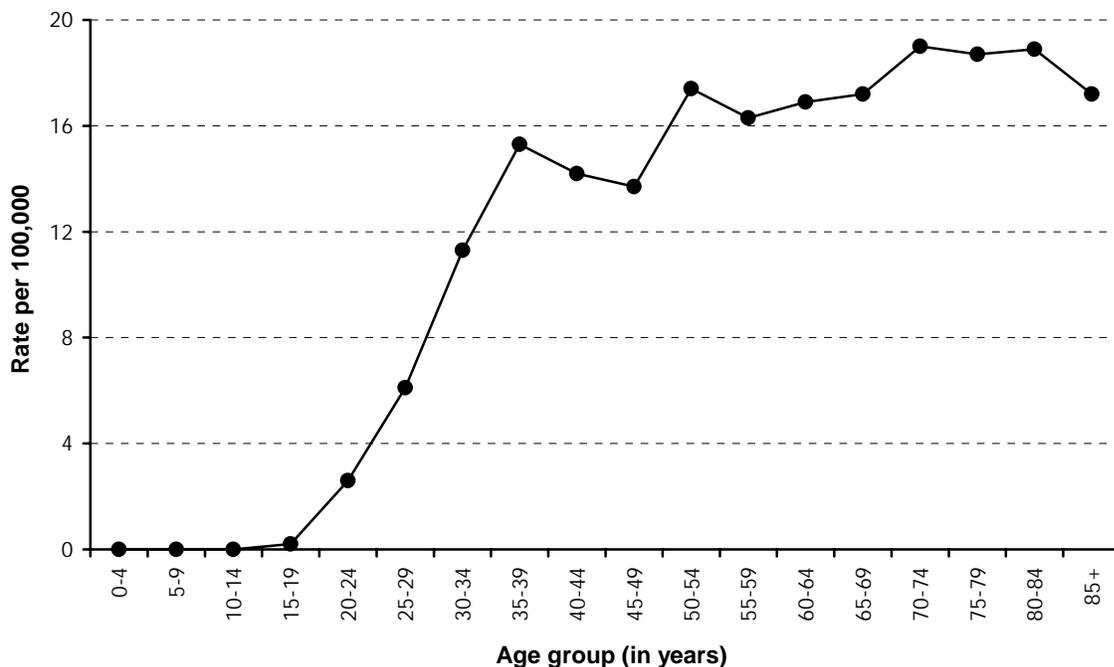
Note. Rates are per 100,000 female population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Cervix, 1995-1996 Age-Specific Incidence Rate**

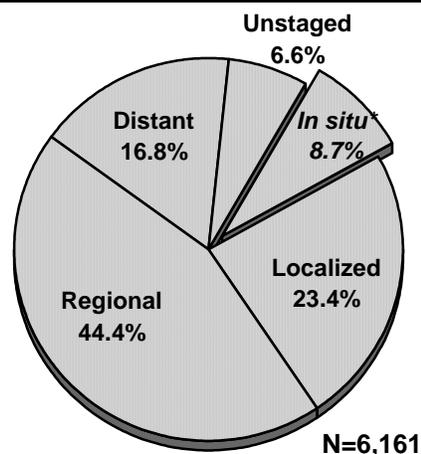


## Cancer of the Colon and Rectum

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	2,719	37.9	2,903	39.5
Male	1,328	44.3	1,406	45.4
Female	1,391	33.5	1,497	35.0
White	2,130	36.1	2,329	38.7
Black	523	46.6	517	44.5
Other	36	24.4	36	22.5

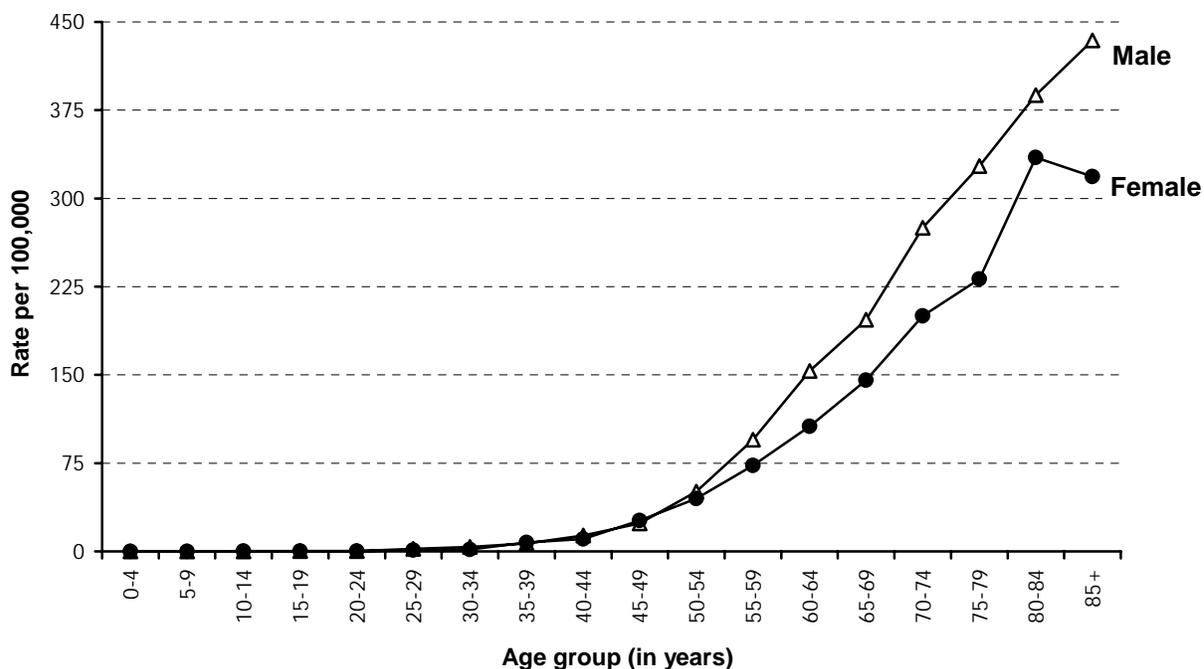
**Percentage of Cases By Stage at Diagnosis, 1995-1996**



Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Colon and Rectum, 1995-1996  
Age-Specific Incidence Rate by Sex**



## Cancer of the Kidney and Renal Pelvis

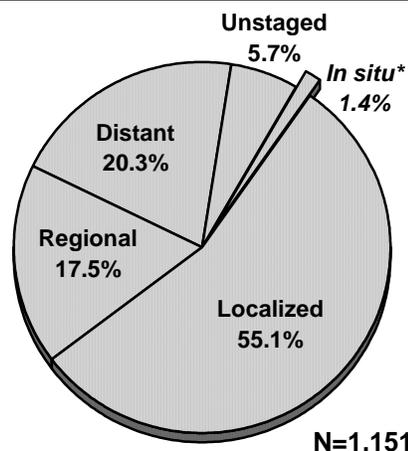
**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	545	7.9	590	8.4
Male	345	11.1	381	12.1
Female	200	5.3	209	5.3
White	418	7.5	468	8.1
Black	112	10.0	117	10.2
Other	12	8.0	5	*

Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

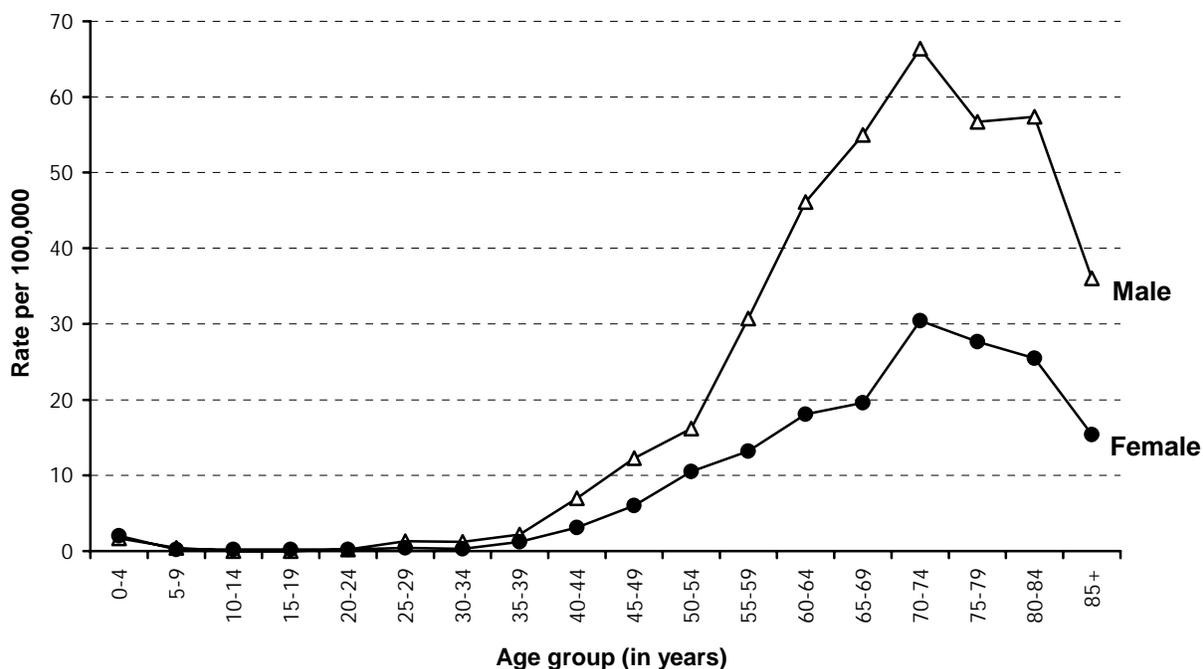
\*Rates based on fewer than 10 cases are not reported because they are unreliable.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Kidney and Renal Pelvis, 1995-1996 Age-Specific Incidence Rate by Sex**

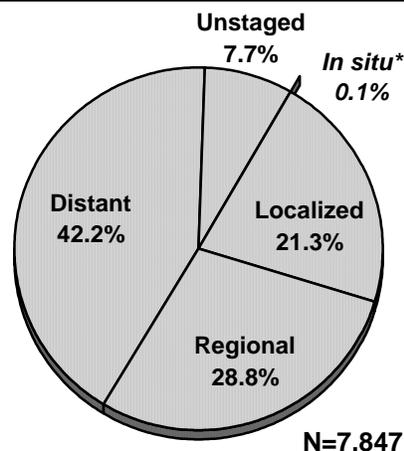


## Cancer of the Lung and Bronchus

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	3,921	57.0	3,920	55.7
Male	2,409	80.3	2,366	77.1
Female	1,512	39.5	1,544	39.6
White	3,151	55.9	3,142	54.6
Black	712	65.3	718	63.9
Other	41	26.9	48	30.6

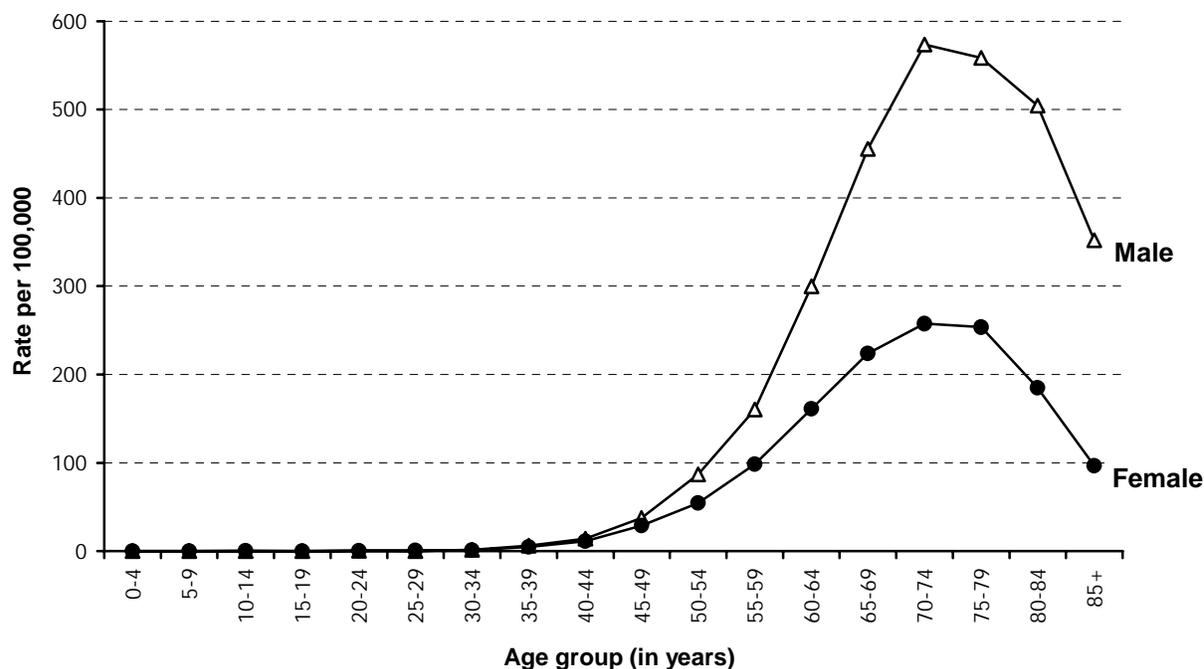
**Percentage of Cases By Stage at Diagnosis, 1995-1996**



Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Lung and Bronchus, 1995-1996  
Age-Specific Incidence Rate by Sex**

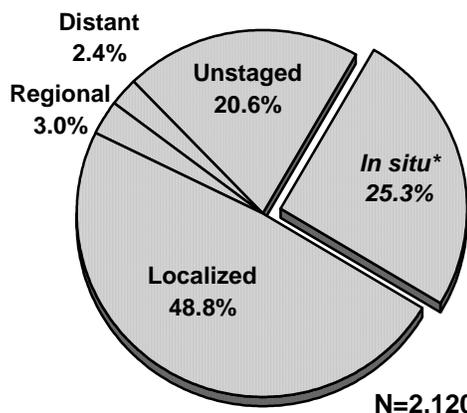


# Melanoma of the Skin<sup>†</sup>

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	755	10.2	828	10.9
Male	445	13.5	433	12.8
Female	310	7.6	395	9.6
White	604	10.2	695	11.4
Black	9	*	12	1.0
Other	21	10.4	8	*

**Percentage of Cases By Stage at Diagnosis, 1995-1996**

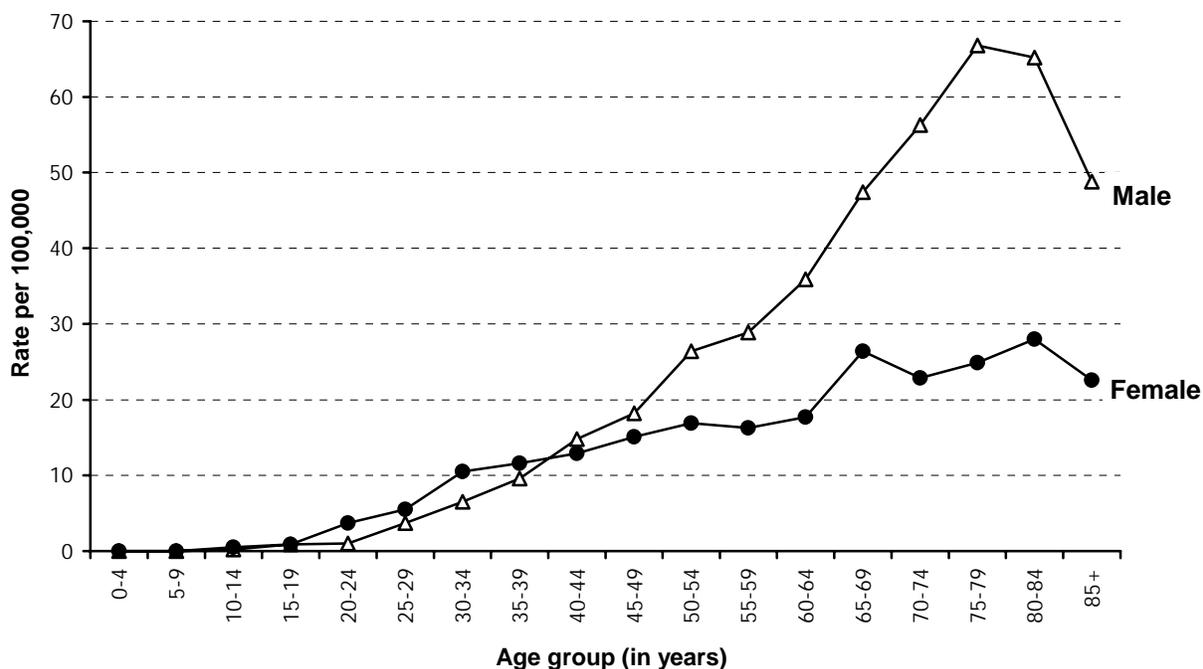


Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ melanomas.

\*Rates based on fewer than 10 cases are not reported because they are unreliable.

\*These in situ cancers have been excluded from all rates presented.

**Invasive Melanoma of the Skin, 1995-1996 Age-Specific Incidence Rate by Sex**



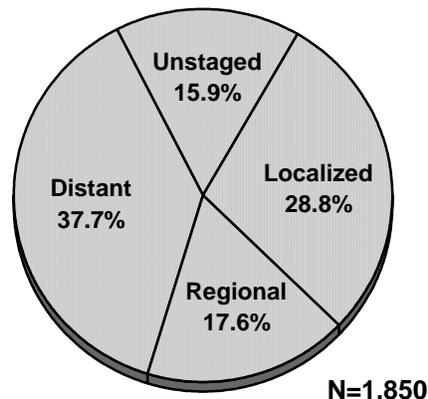
<sup>†</sup>Data exclude basal and squamous cell skin carcinomas.

# Non-Hodgkin's Lymphoma

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

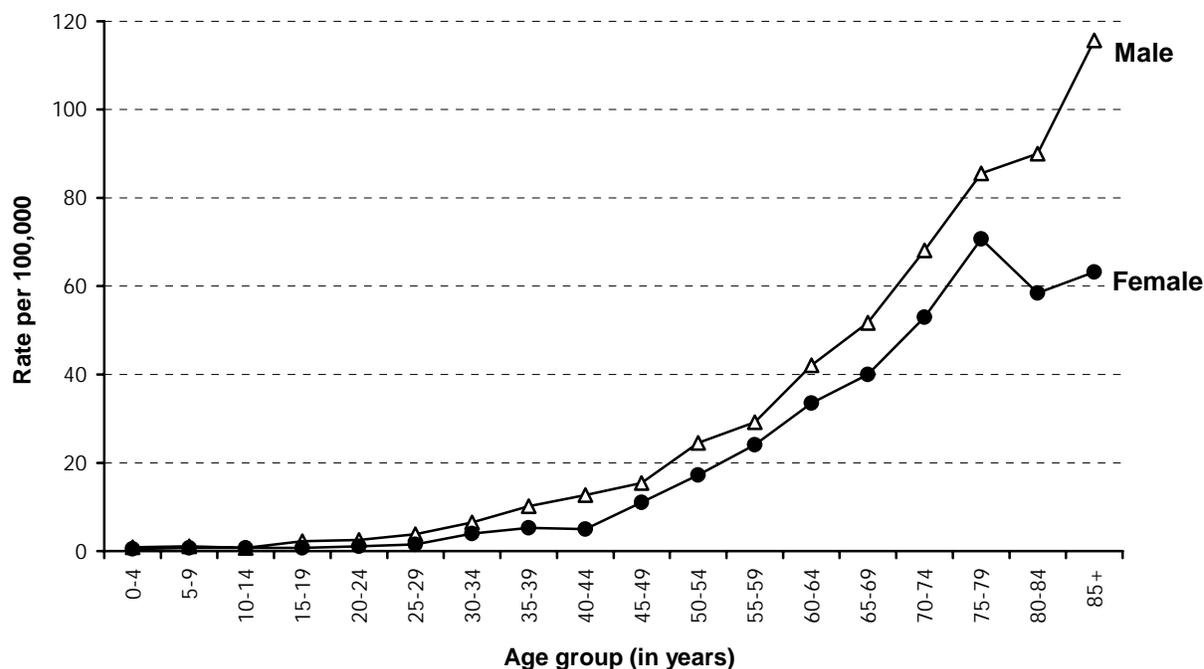
	1995		1996	
	Cases	Rate	Cases	Rate
Total	890	12.3	960	13.1
Male	470	14.6	514	15.7
Female	420	10.4	446	11.0
White	738	12.7	805	13.6
Black	125	9.7	131	10.5
Other	18	8.8	10	6.0

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Non-Hodgkin's Lymphoma, 1995-1996 Age-Specific Incidence Rate by Sex**



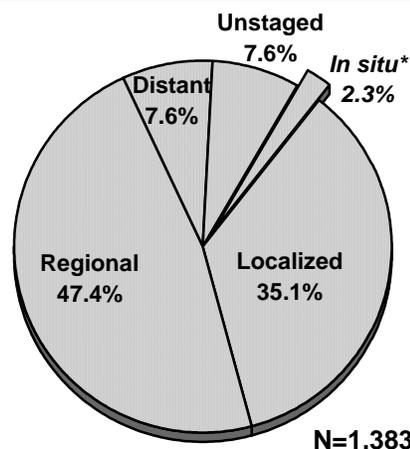
## Cancer of the Oral Cavity and Pharynx

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	658	9.5	693	9.7
Male	462	14.8	470	14.7
Female	196	5.2	223	5.5
White	507	8.9	520	9.0
Black	133	12.1	152	12.9
Other	12	8.1	14	6.7

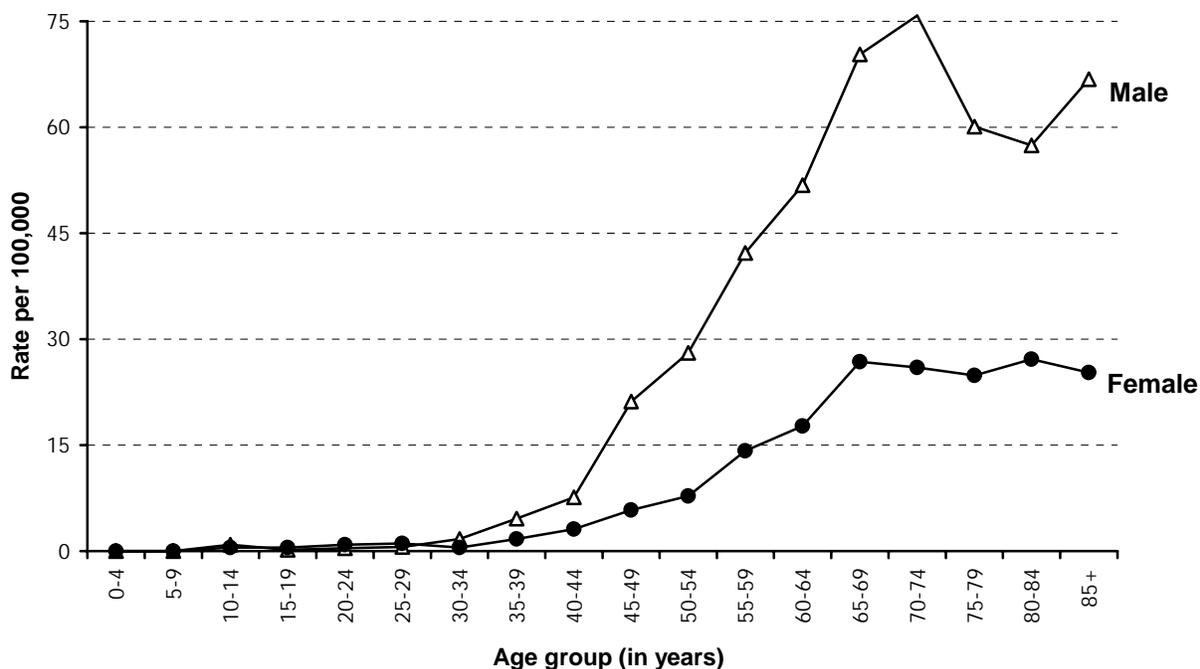
Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Oral Cavity and Pharynx, 1995-1996 Age-Specific Incidence Rate by Sex**



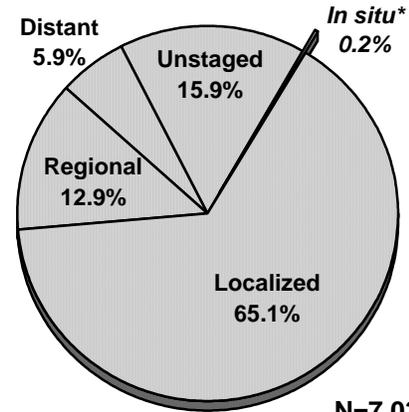
# Prostate Cancer

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	3,524	119.1	3,496	116.3
White	2,435	99.3	2,488	100.2
Black	804	178.3	825	181.0
Other	40	66.9	30	46.7

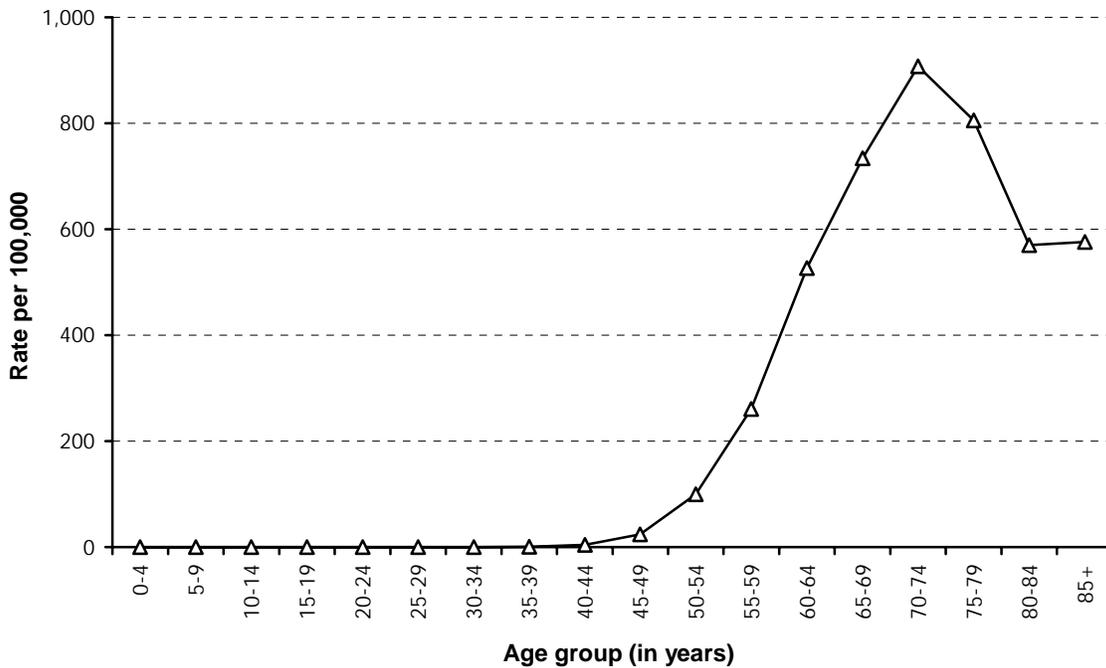
Note. Rates are per 100,000 male population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Prostate Cancer, 1995-1996 Age-Specific Incidence Rate**

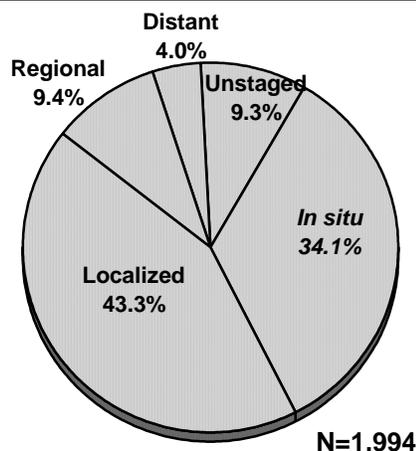


## Cancer of the Urinary Bladder

**Number of Cases and Age-Adjusted Incidence Rate By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	1,033	14.0	991	13.7
Male	706	23.5	714	23.4
Female	297	7.4	277	6.5
White	867	14.7	862	14.6
Black	104	9.3	101	8.6
Other	12	9.1	8	*

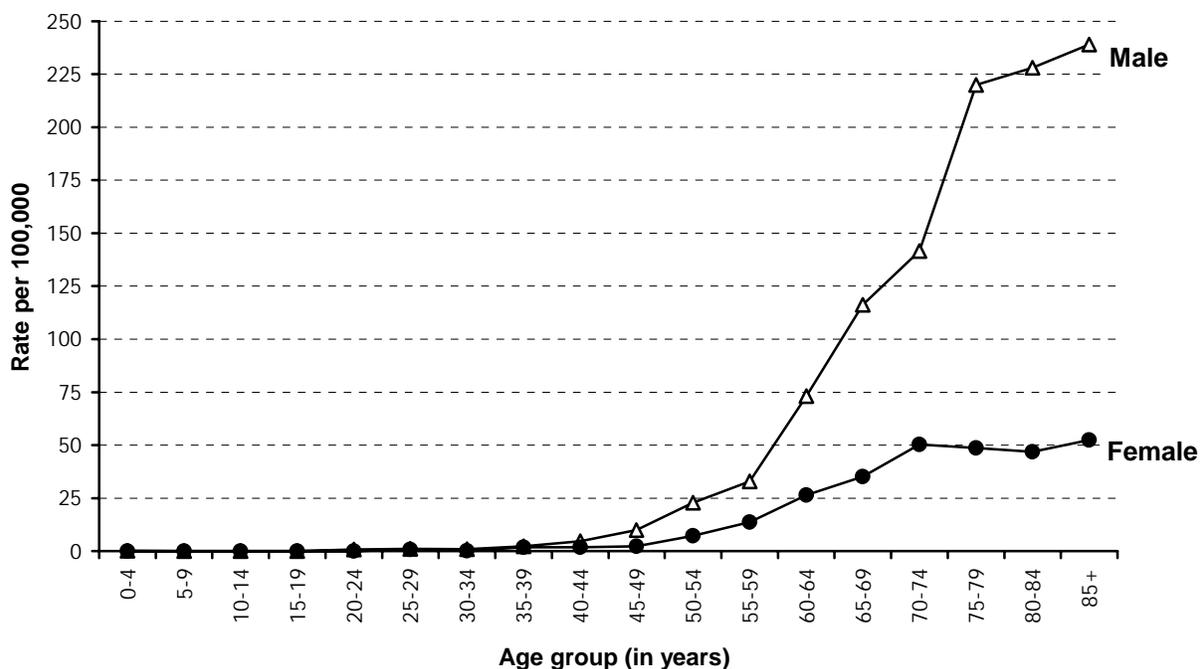
**Percentage of Cases By Stage at Diagnosis, 1995-1996**



Note. Rates are per 100,000 population and are adjusted to 1970 U.S. standard population. Data include in situ carcinomas.

\*Rates based on fewer than 10 cases are not reported because they are unreliable.

**Cancer of the Urinary Bladder, 1995-1996 Age-Specific Incidence Rate by Sex**



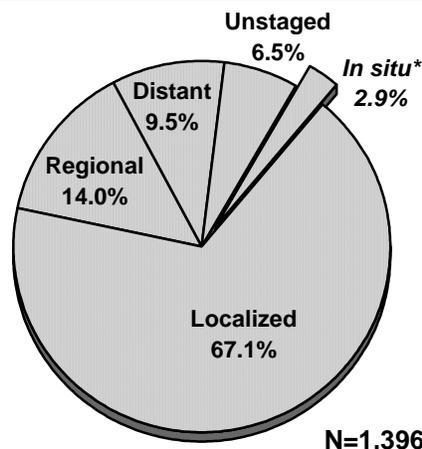
## Cancer of the Uterus

**Number of Cases and Age-Adjusted Incidence Rate for Invasive Cancer By Sex, Race, and Year of Diagnosis**

	1995		1996	
	Cases	Rate	Cases	Rate
Total	688	18.1	668	17.3
White	564	18.5	559	18.2
Black	106	16.2	89	13.0
Other	10	8.3	11	9.9

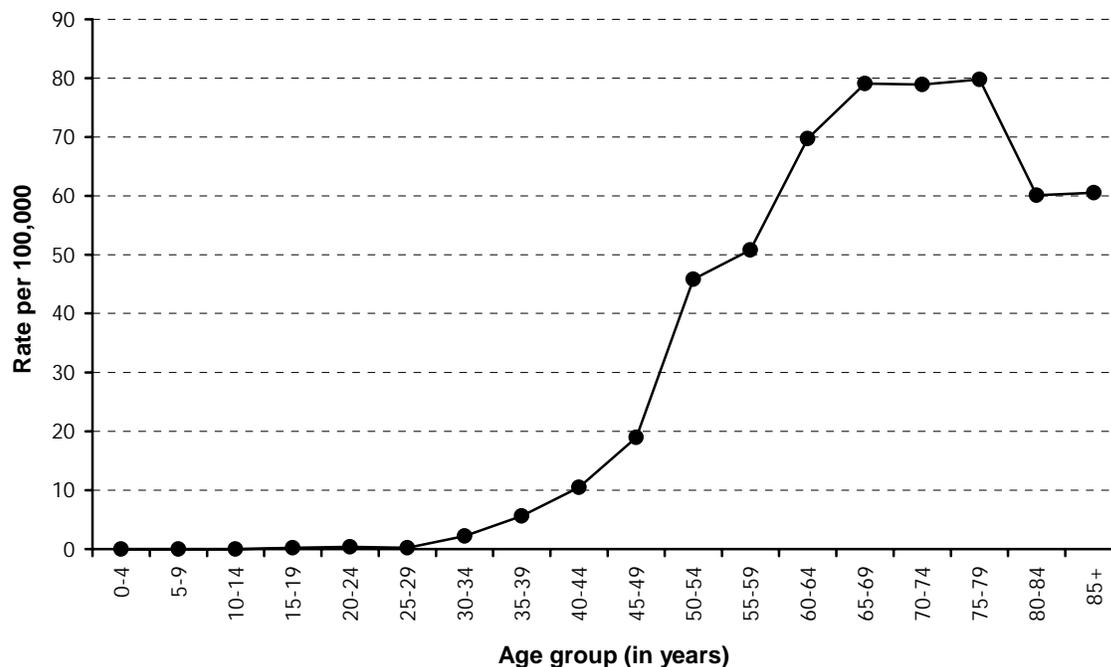
Note. Rates are per 100,000 female population and are adjusted to 1970 U.S. standard population. Data exclude in situ carcinomas.

**Percentage of Cases By Stage at Diagnosis, 1995-1996**



\*These in situ cancers have been excluded from all rates presented.

**Invasive Cancer of the Uterus, 1995-1996 Age-Specific Incidence Rate**





# Section IV

## Data Tables



**Table 1. Cancer Incidence in Virginia Health Districts**  
 Number of Cases and Annual Age-adjusted Incidence Rate  
 by Health District for Selected Cancers, 1995-1996

HEALTH DISTRICT	All Sites Combined		Lung and Bronchus		Female Breast	
	Count	Rate	Count	Rate	Count	Rate
Alexandria	855	343.3	119	47.3	158	112.6
Alleghany	1,588	365.2	250	58.7	238	99.8
Arlington	1,167	310.8	158	44.5	188	85.7
Central Shenandoah	2,066	343.9	314	51.9	291	94.5
Central Virginia	1,960	352.5	322	58.9	280	94.2
Chesapeake	1,176	347.1	218	67.4	204	102.7
Chesterfield	1,829	419.4	307	75.1	303	116.4
Crater	1,284	378.6	265	78.6	188	104.6
Cumberland Plateau <sup>†</sup>	636	216.0	98	33.7	105	66.3
Eastern Shore	539	384.7	121	84.0	79	110.6
Fairfax	5,817	350.1	668	43.7	1,091	111.4
Hampton	1,053	378.4	173	62.4	162	102.3
Hanover	864	347.3	168	68.5	140	100.6
Henrico	1,918	347.0	312	56.9	311	97.4
Lenowisco <sup>†</sup>	210	90.9	18	7.6	41	32.4
Lord Fairfax	1,385	320.8	261	61.4	202	89.3
Loudoun	693	373.7	100	63.1	122	117.0
Mount Rogers <sup>†</sup>	1,144	222.1	230	43.3	153	53.5
New River <sup>†</sup>	997	299.8	143	44.0	149	86.5
Norfolk	1,909	413.7	355	78.4	295	117.0
Peninsula	2,084	357.8	339	59.3	370	114.8
Piedmont	838	358.2	129	55.6	110	92.5
Pittsylvania/Danville	1,129	364.4	211	68.4	160	95.8
Portsmouth	981	394.3	143	57.1	154	111.4
Prince William	1,312	368.3	194	63.5	225	106.9
Rappahannock	1,463	399.7	258	73.6	204	102.2
Rappahannock/Rapidan	949	323.9	147	49.8	146	93.7
Richmond	1,895	387.3	346	71.4	267	99.7
Roanoke	999	363.0	189	72.9	139	93.9
Southside	796	338.2	125	52.4	111	92.3
Thomas Jefferson	1,527	379.5	225	56.4	222	103.2
Three Rivers	1,274	340.0	255	66.1	171	88.1
Virginia Beach	2,434	364.0	355	56.9	441	115.8
West Piedmont	1,293	364.8	176	49.2	213	110.8
Western Tidewater	932	351.8	149	57.5	149	104.0
<b>VIRGINIA</b>	<b>48,997</b>	<b>344.1</b>	<b>7,841</b>	<b>56.3</b>	<b>7,782</b>	<b>98.9</b>

Note. Data exclude localized basal and squamous skin cell cancers and in situ carcinomas except urinary bladder. Rates are per 100,000 population and are age-adjusted to the 1970 U.S. standard population. See Appendix A for a table of counties and cities that make up each health district.

<sup>†</sup> Virginia residents diagnosed and treated in Tennessee are not included in these figures. See Appendix A for more information.

**Table 1 (continued). Cancer Incidence in Virginia Health Districts**  
 Number of Cases and Annual Age-adjusted Incidence Rate  
 by Health District for Selected Cancers, 1995-1996

HEALTH DISTRICT	Prostate		Colon and Rectum		Urinary Bladder	
	Count	Rate	Count	Rate	Count	Rate
Alexandria	118	125.3	103	40.3	29	10.9
Alleghany	191	100.4	189	41.2	70	15.0
Arlington	175	119.4	140	36.3	53	14.2
Central Shenandoah	304	114.4	245	38.6	95	15.1
Central Virginia	294	121.3	270	45.3	76	13.0
Chesapeake	159	115.8	136	41.5	37	11.7
Chesterfield	274	155.9	205	49.6	53	13.1
Crater	188	128.6	152	43.7	30	8.9
<i>Cumberland Plateau<sup>†</sup></i>	<i>58</i>	<i>45.4</i>	<i>89</i>	<i>28.7</i>	<i>29</i>	<i>9.7</i>
Eastern Shore	62	96.7	72	46.1	26	17.3
Fairfax	992	145.0	532	33.9	224	14.5
Hampton	193	164.5	119	43.3	59	21.0
Hanover	135	123.4	99	39.6	41	16.6
Henrico	284	125.8	228	39.1	85	14.9
<i>Lenowisco<sup>†</sup></i>	<i>20</i>	<i>18.8</i>	<i>33</i>	<i>12.4</i>	<i>10</i>	<i>4.1</i>
Lord Fairfax	156	81.9	180	40.2	65	14.1
Loudoun	91	130.1	63	37.8	25	14.9
<i>Mount Rogers<sup>†</sup></i>	<i>119</i>	<i>51.3</i>	<i>149</i>	<i>27.4</i>	<i>34</i>	<i>6.4</i>
<i>New River<sup>†</sup></i>	<i>122</i>	<i>85.4</i>	<i>115</i>	<i>33.3</i>	<i>51</i>	<i>14.4</i>
Norfolk	239	124.1	226	46.8	76	15.3
Peninsula	305	124.3	214	37.3	91	15.7
Piedmont	140	130.8	104	41.3	29	11.7
Pittsylvania/Danville	126	92.2	155	47.7	51	15.5
Portsmouth	183	174.7	107	42.2	40	14.3
Prince William	153	126.9	145	46.7	55	17.8
Rappahannock	192	125.3	163	45.3	48	13.7
Rappahannock/Rapidan	137	102.4	109	37.5	47	16.1
Richmond	287	147.0	205	37.3	75	14.1
Roanoke	116	102.3	141	46.4	48	15.9
Southside	123	113.5	104	41.5	24	9.8
Thomas Jefferson	219	122.6	171	42.0	69	16.7
Three Rivers	203	116.8	155	38.4	58	14.5
Virginia Beach	304	112.0	251	38.9	95	15.2
West Piedmont	215	132.9	138	37.6	61	16.3
Western Tidewater	143	128.5	115	41.3	35	12.4
<b>VIRGINIA</b>	<b>7,020</b>	<b>117.7</b>	<b>5,622</b>	<b>38.8</b>	<b>1,994</b>	<b>13.8</b>

Note. Data exclude localized basal and squamous skin cell cancers and in situ carcinomas except urinary bladder. Rates are per 100,000 population and are age-adjusted to the 1970 U.S. standard population. See Appendix A for a table of counties and cities that make up each health district.

<sup>†</sup> Virginia residents diagnosed and treated in Tennessee are not included in these figures. See Appendix A for more information.

**Table 2. Stage at Diagnosis**

Number of Cases, Annual Age-adjusted Incidence Rate by Stage, and Percentage of Change in Rate for Each Stage for Selected Cancers, 1995-1996

	In situ		Localized		Regional		Distant	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
<b>All Sites Combined</b>								
1995 (N=26,415)	2,672	35.75	10,170	144.30	5,777	82.12	4,915	70.42
1996 (N=27,332)	2,758	36.84	10,496	146.91	6,072	84.45	4,998	70.22
<b>% change in rate</b>		<b>3.05</b>		<b>1.81</b>		<b>2.84</b>		<b>(0.28)</b>
<b>Female Breast</b>								
1995 (N=4,428)	624	16.37	2,326	59.41	1,046	26.76	200	5.17
1996 (N=4,665)	687	17.77	2,442	62.24	1,151	28.99	196	4.95
<b>% change in rate</b>		<b>8.55</b>		<b>4.76</b>		<b>8.33</b>		<b>(4.26)</b>
<b>Buccal Cavity and Pharynx</b>								
1995 (N=675)	17	0.25	237	3.36	309	4.49	62	0.92
1996 (N=708)	15	0.23	249	3.46	346	4.89	43	0.61
<b>% change in rate</b>		<b>(8.00)</b>		<b>2.98</b>		<b>8.91</b>		<b>(33.70)</b>
<b>Cervix</b>								
1995 (N=1,285)	966	23.75	173	4.15	100	2.51	27	0.65
1996 (N=1,271)	925	22.89	187	4.43	105	2.54	31	0.76
<b>% change in rate</b>		<b>(3.62)</b>		<b>6.75</b>		<b>1.20</b>		<b>16.92</b>
<b>Colon/Rectum</b>								
1995 (N=2,984)	265	3.80	699	9.75	1,333	18.63	496	7.01
1996 (N=3,177)	274	3.86	745	10.22	1,403	18.99	539	7.47
<b>% change in rate</b>		<b>1.58</b>		<b>4.82</b>		<b>1.93</b>		<b>6.56</b>
<b>Kidney/Renal Pelvis</b>								
1995 (N=555)	10	0.14	300	4.36	94	1.37	111	1.63
1996 (N=596)	6	*	334	4.68	107	1.54	123	1.79
<b>% change in rate</b>		*		<b>7.34</b>		<b>12.41</b>		<b>9.82</b>

**Note.** Negative changes in rates are denoted by parentheses. Small changes in observed counts may result in inflated percentage increases or decreases. Rates are per 100,000 population and are age-adjusted to the 1970 U.S. standard population.

\* Rates based on fewer than 10 cases are not reported because they are unreliable.

**Table 2 (continued). Stage at Diagnosis**

Number of Cases, Annual Age-adjusted Incidence Rate by Stage and Percentage of Change in Rate for Each Stage for Selected Cancers, 1995-1996

	In situ		Localized		Regional		Distant	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
<b>Lung/Bronchus</b>								
1995 (N=3,924)	3	*	840	12.08	1,135	16.58	1,674	24.47
1996 (N=3,923)	3	*	829	11.66	1,122	16.11	1,637	23.40
<b>% change in rate</b>		*		<b>(3.48)</b>		<b>(2.83)</b>		<b>(4.37)</b>
<b>Melanoma of the Skin</b>								
1995 (N=995)	240	3.26	491	6.67	33	0.44	19	0.27
1996 (N=1,125)	297	4.06	543	7.19	30	0.39	31	0.43
<b>% change in rate</b>		<b>24.54</b>		<b>7.80</b>		<b>(11.36)</b>		<b>59.26</b>
<b>Non-Hodgkin's Lymphoma</b>								
1995 (N=890)	0	0.00	262	3.64	159	2.23	340	4.66
1996 (N=960)	0	0.00	271	3.69	167	2.30	357	4.87
<b>% change in rate</b>		<b>0.00</b>		<b>1.37</b>		<b>3.14</b>		<b>4.51</b>
<b>Prostate</b>								
1995 (N=3,533)	9	*	2,286	77.01	468	15.94	206	6.97
1996 (N=3,504)	8	*	2,292	76.33	443	14.75	209	6.96
<b>% change in rate</b>		*		<b>(0.88)</b>		<b>(7.47)</b>		<b>(0.14)</b>
<b>Urinary Bladder</b>								
1995 (N=1,003)	335	4.69	433	6.05	91	1.30	40	0.55
1996 (N=991)	345	4.82	430	5.86	96	1.33	39	0.55
<b>% change in rate</b>		<b>2.77</b>		<b>(3.14)</b>		<b>2.31</b>		<b>0.00</b>
<b>Uterus</b>								
1995 (N=711)	23	0.59	471	12.49	97	2.44	75	2.04
1996 (N=685)	17	0.46	467	12.42	98	2.43	57	1.39
<b>% change in rate</b>		<b>(22.03)</b>		<b>(0.56)</b>		<b>(0.41)</b>		<b>(31.86)</b>

**Note.** Negative changes in rates are denoted by parentheses. Small changes in observed counts may result in inflated percentage increases or decreases. Rates are per 100,000 population and are age-adjusted to the 1970 U.S. standard population.

\* Rates based on fewer than 10 cases are not reported because they are unreliable.

**Table 3. Cancer Mortality in Virginia, 1996**  
 Number of Virginia Resident Deaths and Age-adjusted Mortality Rate  
 for Selected Cancers

SITE	Total		Male		Female	
	Count	Rate	Count	Rate	Count	Rate
Brain and Other Nervous System	262	3.7	144	4.6	118	3.0
Breast	1,006	13.7	13	0.4	993	24.4
Cervix	--	--	--	--	108	2.7
Colon and Rectum	1,206	16.0	548	18.1	658	14.4
Esophagus	276	3.9	221	7.2	55	1.3
Hodgkin's Disease	20	0.3	8	*	12	0.3
Kidney and Renal Pelvis	250	3.4	159	5.2	91	2.1
Larynx	104	1.5	78	2.6	26	0.7
Leukemia	458	6.2	257	8.4	201	4.6
Liver and Intrahepatic Bile Duct	277	3.8	168	5.4	109	2.5
Lung and Bronchus	3,700	51.8	2,246	73.8	1,454	35.9
Melanoma of the Skin	180	2.4	110	3.4	70	1.6
Multiple Myeloma	272	3.7	146	4.8	126	3.0
Non-Hodgkin's Lymphoma	500	6.7	259	8.3	241	5.4
Oral Cavity and Pharynx	172	2.4	122	3.9	50	1.2
Ovary	--	--	--	--	328	7.8
Pancreas	600	8.0	285	9.2	315	7.1
Prostate	--	--	776	26.2	--	--
Stomach	288	3.8	162	5.3	126	2.9
Testis	--	--	7	*	--	--
Thyroid	30	0.4	13	0.4	17	0.3
Urinary Bladder	257	3.3	166	5.6	91	2.0
Uterus	--	--	--	--	138	3.3
<b>All Malignant Cancers</b>	<b>12,652</b>	<b>171.9</b>	<b>6,612</b>	<b>216.8</b>	<b>6,040</b>	<b>142.7</b>

*Note.* Data were obtained from the Virginia Center for Health Statistics (VCHS). Rates are per 100,000 persons and are age-adjusted to the 1970 U.S. standard population.

\* Rates based on fewer than 10 cases are not reported because they are unreliable.

**Table 4. Cancer Incidence in Virginia, 1990-1994 (Revised)**  
 Number of Cases and Average Annual Age-adjusted Incidence Rate by Site of Cancer, Sex and Race

SITE	Total		Male		Female		White		Black		Other	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Brain/Other Nervous System	1,600	4.9	898	5.9	702	4.1	1,378	5.3	188	3.3	25	2.8
Cervix	--	--	--	--	1,482	7.7	1,063	6.8	352	10.8	47	9.9
Colon/Rectum	13,235	39.1	6,564	46.7	6,671	33.7	10,547	37.8	2,445	45.6	139	23.8
Esophagus	1,402	4.3	1,080	7.6	322	1.8	926	3.4	458	9.0	11	2.1
Female Breast	--	--	--	--	17,620	95.2	14,450	96.4	2,825	91.0	208	44.5
Hodgkin's Lymphoma	793	2.2	425	2.5	368	2.0	668	2.4	110	1.7	7	*
Kidney/Renal Pelvis	2,461	7.6	1,511	10.4	950	5.2	1,951	7.3	459	8.6	43	6.4
Larynx	1,491	4.6	1,166	8.2	325	1.9	1,148	4.4	325	6.4	7	*
Leukemia	2,053	6.4	1,156	8.0	897	5.1	1,639	6.3	332	6.0	50	7.4
Liver/Intrahepatic Bile Duct	717	2.2	462	3.2	255	1.3	484	1.8	165	3.1	59	9.3
Lung/Bronchus	17,952	55.2	11,309	80.2	6,643	36.6	14,393	53.8	3,346	64.8	139	26.5
Melanoma of the Skin	2,990	8.6	1,639	10.5	1,351	7.1	2,693	9.5	38	0.7	17	2.0
Multiple Myeloma	1,213	3.6	648	4.6	565	2.9	784	2.8	399	7.5	12	2.3
Non-Hodgkin's Lymphoma	3,819	11.2	1,996	13.3	1,823	9.6	3,283	11.9	461	8.1	39	6.0
Oral Cavity and Pharynx	3,145	9.6	2,130	14.7	1,015	5.5	2,386	8.9	691	13.5	35	4.5
Ovary	--	--	--	--	1,960	10.8	1,658	11.3	255	8.3	36	8.9
Pancreas	2,221	6.7	1,133	8.0	1,088	5.5	1,634	5.9	548	10.3	31	5.2
Prostate	--	--	17,884	129.1	--	--	13,112	114.0	3,822	176.8	95	48.9
Stomach	1,674	4.9	1,028	7.3	646	3.2	1,113	4.0	490	9.1	56	9.7
Testis	699	1.7	699	3.5	--	--	662	4.2	29	0.9	4	*
Thyroid	1,118	3.1	276	1.7	842	4.4	956	3.3	109	1.7	47	4.7
Urinary Bladder	4,777	14.2	3,451	24.6	1,326	6.8	4,188	15.2	486	9.0	35	6.6
Uterus	--	--	--	--	3,042	16.8	2,541	17.4	436	14.2	29	7.5
Other	7,216	21.3	3,703	25.3	3,513	18.3	5,725	20.8	1,314	23.6	94	15.6
<b>All Sites</b>	<b>112,677</b>	<b>336.7</b>	<b>59,271</b>	<b>416.0</b>	<b>53,406</b>	<b>285.6</b>	<b>89,465</b>	<b>326.3</b>	<b>20,111</b>	<b>374.7</b>	<b>1,265</b>	<b>196.8</b>

**Note.** Data exclude localized basal and squamous skin cell cancers and in situ carcinomas except urinary bladder. Rates are per 100,000 population and are age-adjusted to the 1970 U.S. standard population. Population figures used in the above table differ from the population figures used in previously released Virginia Cancer Registry data. See introduction for more information regarding population statistics.

\* Rates based on fewer than 10 cases are not reported because they are unreliable.

# Section V

## Appendices



## **Appendix A: Technical Notes**

### **Case Ascertainment**

These data reflect a conservative account of cancer in Virginia. One reason for this is that residents sometimes travel out-of-state for diagnosis and treatment. Data on cancer in Virginia residents diagnosed or treated in the neighboring states of Kentucky, Maryland, West Virginia, North Carolina, or the District of Columbia are collected from the central registries in those states through legal interstate data exchange agreements. Virginia does not have an exchange agreement with Tennessee, and Virginia residents diagnosed and treated in Tennessee are not included in these data. Further, some patients may have been missed by the routine casefinding methods used in the reporting facilities. These factors combined lead to biases in the cases that are reported. Underreporting of cancer occurs to varying degrees in different areas of the state; for example, counts may be more accurate in urbanized areas simply because case ascertainment is more complete. Similarly, case reporting may be more complete for certain racial groups, cancer sites, or diagnosis stages. Note that age-adjusted rates for the Southwest region especially are consistently low due to underreporting. Overall, the Registry estimates approximately 87% of cancer diagnosed during 1995-1996 is reflected in our data.

### **Health Districts**

Cancer incidence statistics by health district indicate patterns of occurrence across Virginia. However, observed excess cancer incidence in various areas can occur due to chance, genetic risk factors, or behavior-related risk factors, rather than environmental causes. Virginia is made up of 95 counties and 40 independent cities, which are grouped into 35 health districts by the Virginia Department of Health. The composition of the health districts is listed below:

<b>Health District</b>	<b>Locality</b>
Alexandria	City of Alexandria
Alleghany	Alleghany, Botetourt, Craig, and Roanoke Counties Cities of Clifton Forge, Covington, and Salem
Arlington	Arlington County
Central Shenandoah	Augusta, Bath, Highland, Rockbridge, and Rockingham Counties Cities of Buena Vista, Harrisonburg, Lexington, Staunton, and Waynesboro
Central Virginia	Amherst, Appomattox, Bedford, and Campbell Counties Cities of Bedford and Lynchburg

Health District	Locality
Chesapeake	City of Chesapeake
Chesterfield	Chesterfield and Powhatan Counties City of Colonial Heights
Crater	Dinwiddie, Greensville, Prince George, Surry, and Sussex Counties Cities of Emporia, Hopewell, and Petersburg
Cumberland Plateau	Buchanan, Dickenson, Russell, and Tazewell Counties
Eastern Shore	Accomack and Northampton Counties
Fairfax	Fairfax County Cities of Fairfax and Falls Church
Hampton	City of Hampton
Hanover	Charles City, Goochland, Hanover, and New Kent Counties
Henrico	Henrico County
Lenowisco	Lee, Scott, and Wise Counties City of Norton
Lord Fairfax	Clarke, Frederick, Page, Shenandoah, and Warren Counties City of Winchester
Loudoun	Loudoun County
Mount Rogers	Bland, Carroll, Grayson, Smyth, Washington, and Wythe Counties Cities of Bristol and Galax
New River	Floyd, Giles, Montgomery, and Pulaski Counties City of Radford
Norfolk	City of Norfolk
Peninsula	James City and York Counties Cities of Newport News, Poquoson, and Williamsburg

Health District	Locality
Piedmont	Amelia, Buckingham, Charlotte, Cumberland, Lunenburg, Nottoway, and Prince Edward Counties
Pittsylvania/Danville	Pittsylvania County City of Danville
Portsmouth	City of Portsmouth
Prince William	Prince William County Cities of Manassas and Manassas Park
Rappahannock	Caroline, King George, Spotsylvania, and Stafford Counties City of Fredericksburg
Rappahannock/Rapidan	Culpeper, Fauquier, Madison, Orange, and Rappahannock Counties
Richmond City	City of Richmond
Roanoke City	City of Roanoke
Southside	Brunswick, Halifax, and Mecklenburg Counties
Thomas Jefferson	Albemarle, Fluvanna, Greene, Louisa, and Nelson Counties City of Charlottesville
Three Rivers	Essex, Gloucester, King And Queen, King William, Lancaster, Mathews, Middlesex, Northumberland, Richmond, and Westmoreland Counties
Virginia Beach	City of Virginia Beach
West Piedmont	Franklin, Henry, and Patrick Counties City of Martinsville
Western Tidewater	Isle Of Wight and Southampton Counties Cities of Franklin and Suffolk



**Appendix B: SEER Definition of Site Categories**

<b>Site Categories</b>	<b>ICD-O-2 Codes*</b>	<b>ICD-9 Codes</b>
Oral Cavity and Pharynx	C00.0 - C14.8	140.0 - 145.6 145.8 - 145.9 146.0 - 149.9
Esophagus	C15.0 - C15.9	150.0 - 150.9
Stomach	C16.0 - C16.9	151.0 - 151.9
Colon and Rectum	C18.0 - C18.9, C19.9, C20.9, C21.0 - C21.8	153.0 - 153.9, 154.0 - 154.1, 159.0
Liver and Intrahepatic Bile Duct	C22.0 - C22.1	155.0 - 155.2
Pancreas	C25.0 - C25.9	157.0 - 157.9
Larynx	C32.0 - C32.9	161.0 - 161.9
Lung and Bronchus	C34.0 - C34.9	162.2 - 162.9
Melanoma of the Skin	C44.0 - C44.9 (histologies 8720-8790 only)	172.0 - 172.9
Female Breast	C50.0 - C50.9	174.0 - 174.9
Cervix	C53.0 - C53.9	180.0 - 180.9
Uterus	C54.0 - C54.9, C55.9	179._, 182.0 - 182.1, 182.8
Ovary	C56.9	183.0
Prostate	C61.9	185._
Testis	C62.0 - C62.9	186.0 -186.9
Urinary Bladder	C67.0 - C67.9	188.0 - 188.9
Kidney and Renal Pelvis	C64.9, C65.9	189.0 - 189.1
Brain and Other Nervous System	C70.0 - C70.9, C71.0 - C71.9, C72.0 - C72.9,	191.0 - 191.9 192.0 - 192.3, 192.8 - 192.9
Thyroid	C73.9	193._
Hodgkin's Lymphoma	Histologies 9650-9667	201.0 - 201.9
Non-Hodgkin's Lymphoma	Histologies 9590-9595, 9670-9717	200.0 - 200.8, 202.0 - 202.2, 202.8 - 202.9
Multiple Myeloma	Histologies 9731-9732	203.0, 203.2 - 203.8
Leukemia	Histologies 9800-9804, 9820-9827, 9830-9831, 9840-9842, 9850, 9860-9864, 9866-9868, 9870- 9874, 9880, 9890-9894, 9900, 9910, 9930-9941	202.4, 203.1, 204.0 -207.2, 207.8 -207.9 208.0 -208.9

\*Except where noted or otherwise specified, each grouping excludes histologic types 9590-9989.



**Appendix C: US 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
54 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

*Note.* The U.S. standard population, 1970, is used for the age-adjustment of observed age-specific incidence rates and does not represent an actual population estimate.



**Appendix D:  
Virginia Population, 1995-1996, By Race and Sex**

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Race	1995		1996	
	Male	Female	Male	Female
All Races	3,230,030	3,371,609	3,230,144	3,407,229
White	2,496,751	2,572,651	2,512,147	2,591,777
Black	624,130	678,832	633,567	688,972
Other	109,147	120,126	114,430	126,480

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Note. Population estimates are from the U.S. Census Bureau (release date September 15, 1999). Annual race-, sex-, and age-specific population estimates for each locality were summed to produce population estimates for the state and health district. These figures were used as population-at-risk figures in the denominator in calculation of age-specific and age-adjusted incidence rates.