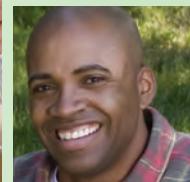
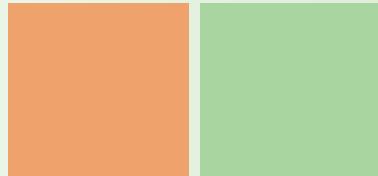


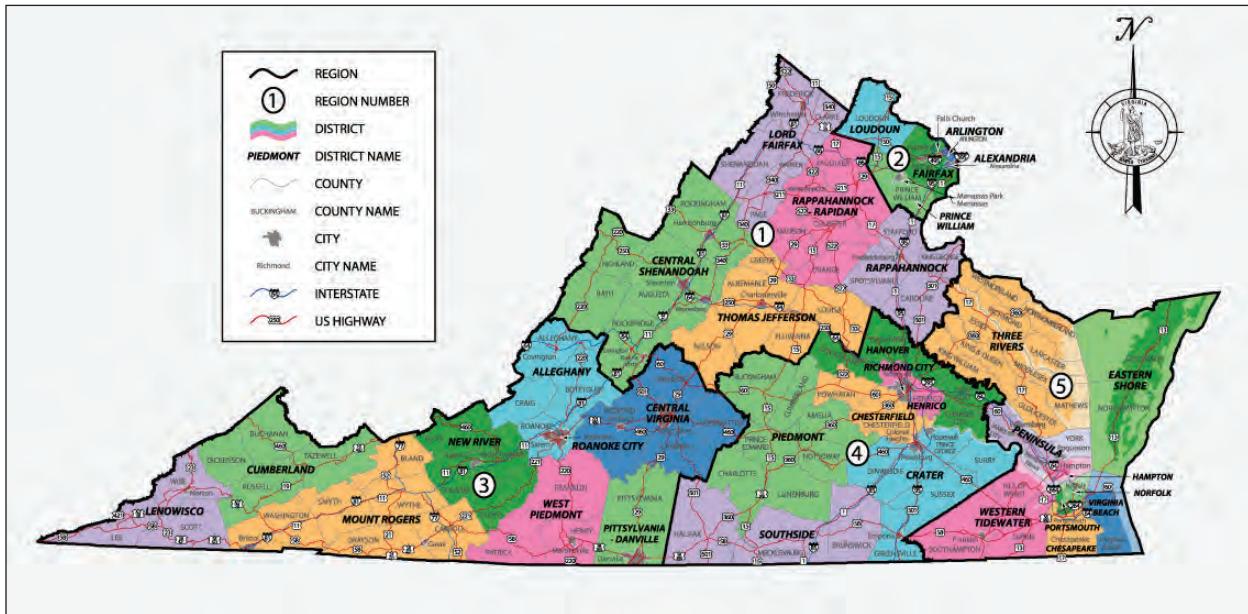
THE VIRGINIA CANCER PLAN

2008 – 2012



VIRGINIA'S 35 LOCAL HEALTH DISTRICTS

(<http://www.vdh.state.va.us/lhd>)



Alexandria

Alleghany

Arlington

Central Shenandoah

Central Virginia

Chesapeake

Chesterfield

Chickahominy

Crater

Cumberland Plateau

Danville

Eastern Shore

Fairfax

Hampton

Henrico

Lenowisco

Lord Fairfax

Loudoun

Mount Rogers

New River

Norfolk

Peninsula

Piedmont

Portsmouth

Prince William

Rappahannock

Rappahannock/Rapidan

Richmond

Roanoke

Southside

Thomas Jefferson

Three Rivers

Virginia Beach

West Piedmont

Western Tidewater

THE VIRGINIA CANCER PLAN

2008 – 2012

CPAC: YOUR NETWORK FOR A HEALTHY VIRGINIA

Visit <http://www.vahealth.org/cdpc/cancerprevention> for more information about cancer in Virginia.

This publication was supported by Cooperative Agreement PA2060 and DPO7-703 from the Centers for Disease Control and Prevention (CDC) through the Virginia Department of Health. The contents do not necessarily represent the official views of the CDC or any other participating entity.

The Cancer Plan Action Coalition has made every effort to make this information as accurate and complete as possible at the time of printing. Any inaccuracies or omissions are unintentional.



“In the battle against cancer, we know that no one group or individual can do it all. Collaboration is a fundamental and necessary process to promote cancer prevention, improve cancer detection, increase access to health and social services, and reduce the burden of cancer.”

Eddie Reed, MD, Director (2006–2007)

Division of Cancer Prevention and Control

National Center for Chronic Disease Prevention and Health Promotion

Centers for Disease Control and Prevention

To the Citizens of Virginia

Cancer impacts individuals and families physically, economically, psychologically, and socially. Over the past 12 months, under the auspices of the Cancer Plan Action Coalition (CPAC), citizens of the Commonwealth have committed time, expertise, and resources to the development of the second edition of the Virginia Cancer Plan (VCP).

The CPAC, established in 1998, is composed of numerous partners across the Commonwealth, including not-for-profit organizations, academic institutions, public health agencies, government offices, community-based organizations, individuals, private businesses, and health care organizations. The mission of the CPAC is to join forces for cancer control to eliminate preventable cancers and minimize the burden of cancer in Virginia.

The aim of the coalition is to strengthen alliances and provide education and outreach activities among cancer stakeholders in the Commonwealth. The collaborative efforts of researchers, lay citizens, local and state public health professionals, and health care providers have provided expertise in the identification of the burden of cancer in Virginia and strategies to reduce cancer risks, enhance survivorship, and increase state-of-the art treatment. (A current list of member organizations can be found in Appendix A).

The CPAC is proud to present the 2008–2012 VCP. The plan is a working document and provides a framework that includes key goals and strategies to eliminate preventable cancers and minimize deaths and disabilities. It provides guidance for design, implementation, surveillance, and evaluation of cancer-related actions and issues for the general public, people with cancer and their families, health care providers, policymakers, and the broader health care system. The CPAC is committed to supporting and assisting with the coordination of efforts that will produce the most effective, efficient, and comprehensive benefits for all.

The CPAC executive committee expresses our appreciation to the action teams and their chairs, the advisory board, and the general membership for their commitment to the process of developing the 2008–2012 VCP and its implementation. This plan is dedicated to cancer survivors and their families who continue to fight the battle against cancer. The CPAC invites you to join us in this major effort to eliminate the burden of cancer and make a difference in the health and quality of life for all Virginians.

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December 4, 2008

Dear Colleague:

I am pleased to support the 2008–2012 Virginia Cancer Plan (VCP). This plan, developed by the Cancer Plan Action Coalition (CPAC) and the Virginia Comprehensive Cancer Control Project (VA-CCC) in the Division of Chronic Disease Prevention and Control in the Virginia Department of Health, addresses and seeks avenues to reduce the burden of cancer in the Commonwealth of Virginia.

As the second leading cause of death in Virginia, cancer is a major public health concern. This disease affects millions of Virginians, their families, friends, and communities. In 2004, the latest year for which there are available data, the cost of hospital stays for cancer was over \$769 million dollars.

The CPAC and the VA-CCC have worked collaboratively to produce the 2008–2012 Virginia Cancer Plan. The plan focuses on six specific areas: Prevention, Early Detection, Treatment, Survivorship and Palliative Care, Surveillance, and Health Equity and Equality. The CPAC has identified priority goals and strategies in each area that will provide guidance for the implementation of the plan.

On behalf of the entire Virginia Department of Health, I would like to extend a sincere thank you to all who have contributed to this important endeavor. Experts in the fields of oncology, survivorship, health care, and treatment have contributed to and reviewed this plan. We will all have important roles to play to ensure that this plan is carried out in an effective and efficient manner. As we move forward, the CPAC and the VA-CCC invite potential partners with an interest in cancer prevention and control to help us achieve the important objectives described in the plan. Working together, we will make great strides in Virginia's battle against cancer.

Sincerely,

A handwritten signature in black ink, appearing to read "Karen Remley".

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Acronyms

ACS	American Cancer Society
ASCO	American Society of Clinical Oncology
BRFSS	Behavioral Risk Factors Surveillance Survey
CDC	Centers for Disease Control and Prevention
CHC	Community Health Center
CMS	Centers for Medicare and Medicaid Services
COC	American College of Surgeons Commission on Cancer
CPAC	Cancer Plan Action Coalition
DRE	Digital Rectal Examination
EHR	Electronic Health Record
EWL	Every Woman's Life
FOBT	Fecal Occult Blood Test
GIS	Geographic Information Systems
HEDIS	Health Plan Employer Data and Information Set
HINTS	Health Information National Trends Survey
HPSA	Health Professional Shortage Area
HPV	Human Papilloma Virus
JLARC	Joint Legislative Audit Review Commission— General Assembly of Virginia
NCCN	National Comprehensive Cancer Network
NCI	National Cancer Institute
NHIS	National Health Interview Survey
NQF	National Quality Forum
OB-GYN	Obstetrician-Gynecologist
OCN	Oncology-Certified Nurses
ONS	Oncology Nursing Society (Virginia Chapter)
PQRI	Physician Quality Reporting Initiative
PSA	Prostate-Specific Antigen
SEER	Surveillance, Epidemiology, and End Results (SEER) Program
SPF	Sun-Protective Factor
VA-CCC	Virginia Comprehensive Cancer Control Project
VCP	Virginia Cancer Plan
VDH	Virginia Department of Health
VDOE	Virginia Department of Education
YRBSS	Youth Risk Behavior Surveillance Survey
YTS	Youth Tobacco Survey

Executive Summary

Cancer affects every individual and family in Virginia with physical, economic, psychological, and social impacts. According to the Virginia Department of Health, Virginia Cancer Registry (2006), there were more than 168,331 new cases of cancer in Virginia from 2000 to 2004. The Virginia incidence rate for all cancers was 429 per 100,000, compared with the overall U.S. rate of 471 per 100,000. However, during the 10-year period from 1995 to 2004, the rate of new cancer cases in Virginia increased by 10 percent (10%).

Cancers that are preventable or can be detected earlier through a variety of screenings account for half of all new cases. Screening can prevent some cancers, lead to early detection of others, and effect the initiation of prompt treatment that may result in better prognosis, longer survival, and fewer deaths. Cancers that are preventable and can be detected through screening have a five-year relative survival rate of 86 percent (86%) (American Cancer Society, 2008).

Among men in Virginia, the most commonly diagnosed cancer is prostate, followed by lung and bronchus, and colorectal cancers. Oral cancers are among the top 10 cancers for men only. The most common cancer for women is breast, followed by lung and colorectal cancers. Skin cancer (melanoma) is among the top 10 cancers for both men and women (Virginia Department of Health, Virginia Cancer Registry, 2006).

Between 2001 and 2005, cancer was the second leading cause of death (following heart disease) among residents of Virginia. Cancer accounted for almost 25 percent (25%) of all deaths in 2004. The number of Virginians who die from cancer has decreased over the past several years, but it is still higher than the national average. Virginia ranks 25th highest in cancer deaths in the nation (Virginia Gov., 2008).

Factors that influence cancer disparities in the United States include geography, language, gender, race/ethnicity, age, immune system disorders such as HIV/AIDS, food supply and adequate nutrition, occupation, socioeconomic status, insurance coverage, cultural values and beliefs, disabilities, and literacy (U. S. Department of Health and Human Services, 2000).

The Cancer Plan Action Coalition (CPAC) and the Virginia Comprehensive Cancer Control Project (VA-CCC) at the VDH have partnered to produce the 2008–2012 Virginia Cancer Plan (VCP). The plan focuses on the areas of Prevention, Early Detection, Treatment, Survivorship and Palliative Care, Surveillance, and Health Equity and Equality. The 2008–2012 VCP is a working document and provides a framework with key goals and strategies to address the burden of cancer for all Virginians. The plan identifies priority goals within each of the areas mentioned above.



Goals of the 2008-2012 VCP Include:

- All Virginians will have access to up-to-date information on cancer prevention and opportunities to reduce their risk of developing cancer.
- Virginians are diagnosed with cancer at an early stage through appropriate screening.
- Virginians with cancer will have access to appropriate and effective cancer treatment and care.
- Virginians with cancer will be able to obtain integrated multidisciplinary evidence-based cancer care.
- Virginians will have access to innovative and potentially effective cancer treatment and clinical trials.
- Cancer survivors in Virginia will have enhanced quality of life.
- Ensure that Virginians have information about and access to individually appropriate quality hospice and palliative care.
- Virginians will have comprehensive and responsive cancer information systems and cancer data that can be used for planning, implementing, and evaluating.
- Establish equity and equality along the cancer care continuum in Virginia.

Introduction

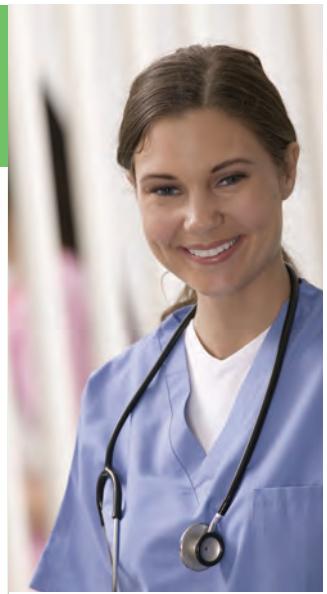
The CPAC was established in 1998 as a statewide network of partners to address the burden of cancer in Virginia. The intent of the CPAC is to bring together a diverse group of people interested in:

- preventing and controlling cancer,
- promoting cancer awareness and education,
- reducing the burden and consequences of cancer, and
- developing a state cancer plan.

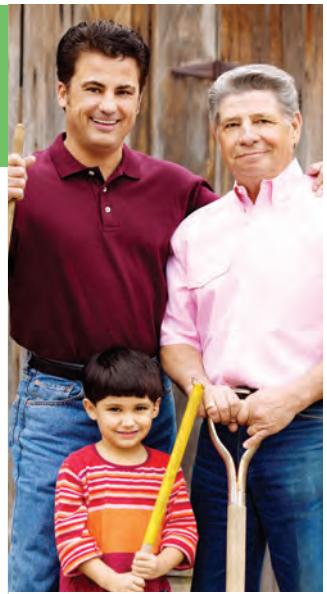
The first five-year cancer plan was launched in 2001. In 2003, the CPAC changed from an advisory committee to an action coalition dedicated to reducing the burden of cancer in Virginia. The CPAC has been in the forefront of cancer prevention and control efforts in Virginia. The CPAC has presented before the General Assembly Health Committee; cohosted, in collaboration with Virginians for A Healthy Future, receptions for legislators; and developed the “Cancer is Non-partisan” promotional buttons and bookmarks. Other accomplishments include:

1. quarterly meetings rotated and teleconferenced to all regions of the Commonwealth, with formal evaluation;
2. adoption of formal bylaws;
3. diversification of membership with over 70 active members and 35 active organizations;
4. establishment of a 20-member advisory board;
5. development of action teams;
6. development of a statewide cancer activities tracking system;
7. development of a website (<http://www.virginiacpac.org>); and
8. planning, organizing and implementing the first statewide comprehensive cancer conference (November 2008).

The 2008–2012 VCP is composed of specific goals, objectives, and strategies developed by the knowledge, collective wisdom, and efforts of the action team’s members. The plan has identified priorities for the next five years. The priorities are centered on Prevention, Early Detection, Treatment, Survivorship and Palliative Care, Surveillance, and Health Equity and Equality.



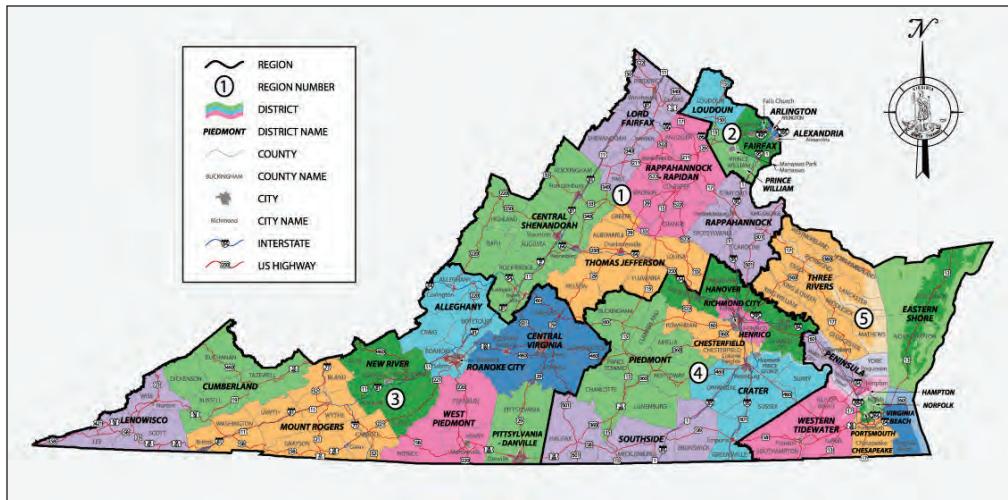
Demographics in Virginia



Geography

The Commonwealth of Virginia encompasses over 40,000 square miles, making it the 35th largest state geographically. Local jurisdictions include 79 counties and 39 cities plus numerous towns and communities. The VDH has grouped these localities into 35 health districts and five health planning regions (see Figure 1).

Figure 1. Commonwealth of Virginia, Department of Health, Health Regions and Districts



Note. Virginia Department of Transportation, Office of Community and Public Relations, Cartography Section, 01/02.

Virginia has a rich agricultural history and widely diverse geographical regions, with six distinct climatic zones and five general agricultural production areas. Farm-lands (approximately 8.7 million acres) support Virginia livestock and agricultural products. Forest lands (15.2 million acres) support important wood-based industries as well as hunting, fishing, and other forest recreation. The wetlands comprise approximately 350,000 acres and are impacted directly by agricultural and forest activities. Geographically, Virginia is divided into regions stretching from the Eastern Shore and the Atlantic Ocean through the Shenandoah Valley to the Piedmont and the Blue Ridge Mountains of Appalachia in the west. Virginia's unusual length running east to west means that metropolitan northern Virginia lies as close to New York City and New England as to its own rural western panhandle. Conversely, Lee County, at the tip of the southwest panhandle, is closer to eight other state capitals than it is to Richmond, Virginia's own capital. (United States Department of Agriculture, n.d.)

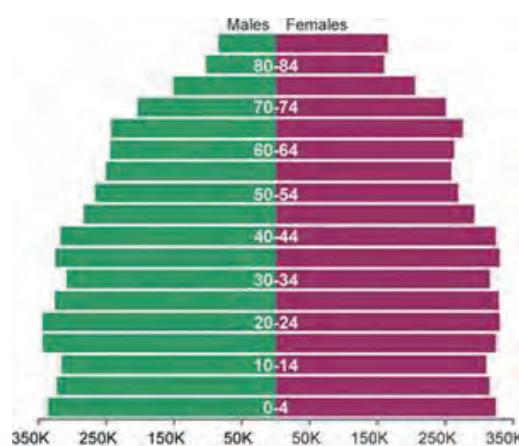
Population

Virginia is the 12th most populated state in the United States, with 7,712,091 residents—an increase of almost half a million residents, or 7 percent (7%), from 2000 and a 14.4 percent (14.4%) increase since 1990, according to the U.S. Census Bureau (2007a). A significant part of this growth in population has occurred in the northern part of the Commonwealth. Concentration of population varies widely between Virginia's urban and rural areas. Twenty-five localities have densities of less than 50 persons per square mile. Half of Virginia localities have total populations under 30,000 persons, with 24 of those having less than 10,000 persons. According to the U. S. Census Bureau, 52 counties and cities are considered to be rural (nonmetropolitan) areas; however, more than three-fourths of the Commonwealth's population lives within metropolitan areas.

People are moving away from the Commonwealth's central cities and counties to the surrounding metropolitan areas. Rural counties adjacent to metropolitan areas are likely to experience significant population growth as space and affordable housing become harder to obtain in the urban core areas. Counties with high quality of life (low crime, good schools, and shopping), access to urban amenities, and those with a diversified, service-based economy are more likely to see rapid growth.

The average age of the population will increase as the baby boomer generation enters retirement age. By 2030, nearly one in every five Virginians is projected to be 65 years or older (see Figure 2). This population will be predominantly female, as women have a longer life expectancy than men. As the baby boomers age, the percentage of older workers will increase, as will the average age of the labor force (Spar, 2006).

Figure 2. Projected Population by Age Distribution, 2030



One-fourth of the population is non-white. Comparing census data from 2000 to 2005, Hispanics and Asians are two of the fastest growing populations in Virginia (see Table 1).

Table 1. Population Estimates by Demographic Group, Virginia, 2000–2005

	2000		2005	
	Count	Percent	Count	Percent
Total	7,078,515	100.0	7,567,465	100.0
Male	3,471,895	49.1	3,723,365	49.2
Female	3,606,620	51.0	3,844,100	50.8
Younger than 18	1,738,262	24.6	1,824,568	24.1
Ages 18–64	4,547,920	64.3	4,877,794	64.5
65 and older	792,333	11.2	865,103	11.4
White	5,324,398	75.2	5,625,586	74.3
Black	1,438,727	20.3	1,541,683	20.4
Asian or Pacific Islander	289,647	4.1	373,773	4.9
American Indian or Alaska Native*	25,743	0.36	26,423	0.35
Hispanic**	329,540	4.7	452,511	6.0

Source: VDH, Division of Health Statistics (2007). Figures obtained from the U.S. Census Bureau (2007).

*According to 2000 U.S. Census data, there were approximately 2,500 people who identified themselves as belonging to any of eight native tribes—Chickahominy, Eastern Chickahominy, Mattaponi, Upper Mattaponi, Pamunkey, Monacan, Nansemond, and Rappahannock—recognized by the Commonwealth of Virginia.

** Ethnicity is not mutually exclusive of race.

Access to Health Care

Socioeconomic status, education, language, race, ethnicity, and disability can be predictors of access to quality health care. In 2005, an estimated 684,000 Virginians, or 9 percent (9.2%) of the population, had an annual household income below the poverty level. An additional 15.9 percent (15.9%) had an income between 100 percent (100%) and 199 percent (199%) of the federal poverty level and were “near poor” (U.S. Census Bureau, 2006b; U.S. Census Bureau, 2007b). Almost 14 percent (14%) of Virginians were medically uninsured (U.S. Census Bureau, 2004; U.S. Census Bureau 2005; U.S. Census Bureau, 2006b; U.S. Census Bureau, 2007b).

Using 2007 population estimates, 3,149,300 individuals (40.9%) reside within primary care federally designated health professional shortage areas (HPSAs) lacking access to primary care providers, while 4,550,700 citizens reside outside of HPSAs (59.1%). Virginia currently has 101 primary care HPSA designations in 77 counties and cities throughout the Commonwealth. Forty-eight of these are geographic primary care designations and seven of them are population-based primary care designations. There are also 49 health care facilities with HPSA designations, of which 21 are community health centers (CHCs), six are rural health clinics, and 22 are correctional centers (K. T. Studer, personal communication, June 13, 2008).

There are currently 290 primary care physicians practicing within the designated HPSAs. It is estimated that an additional 105 primary care physicians are needed to serve the medically needy in specific areas to eliminate the primary care shortages that are currently being experienced within the Commonwealth’s primary care HPSAs. This suggests that it would require a thirty-six percent (36%) in-

crease in providers to eliminate all of the designations. It is noteworthy that even as the number of designations has increased over the past five years, the absolute number of new physicians required to eliminate all of Virginia's primary care HPSAs has gone from a high of approximately 200 to the current 105 (K. T. Studer, personal communication, June 13, 2008).

Virginia is culturally and ethnically diverse, particularly in the north, where it is urban and more densely populated. The countries of origin for some of these residents include Korea, Vietnam, China, India, Philippines, Western Europe (e.g., Germany), Mexico, El Salvador, and Bolivia.

An estimated 10.1 percent, or 723,000 Virginians, are foreign born, including 309,000 naturalized U.S. citizens and 414,000 noncitizens. Virginia ranked 11th out of 51 in the size of the foreign-born population in 2006 (Migration Policy Institute, 2008). Forty-three percent (42.9%) of the foreign born were citizens, and 45 percent (44.5%) of civilian workers were limited-English proficient (defined as persons who do not speak English at all or not well or well) (Migration Policy Institute, 2008). Approximately 13 percent (13.1%) of Virginia residents spoke a language other than English at home (U.S. Census Bureau, 2006a). Culturally and linguistically sensitive prevention strategies, programs, and activities can make an impact on the prevalence of cancer and related contributing behaviors and related conditions, and may help improve the quality of life for Virginians.

Cancer Incidence in Virginia

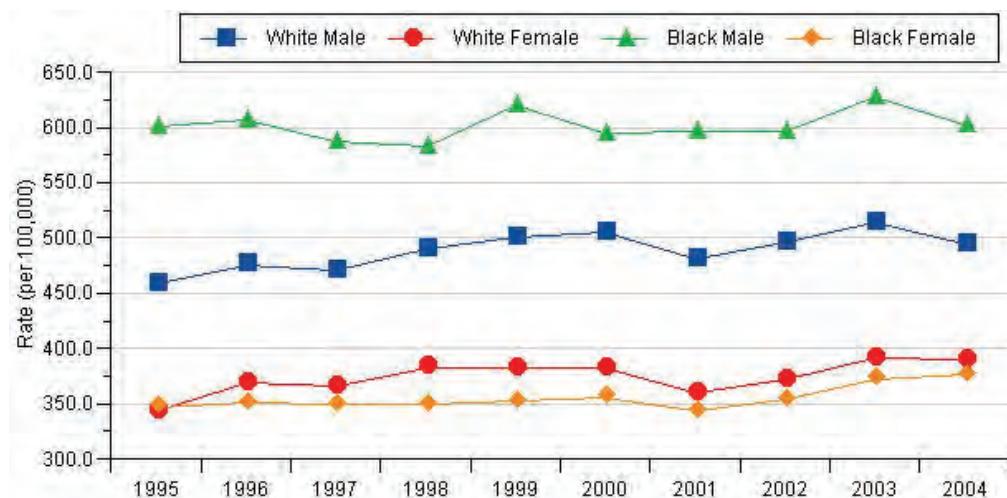


In Virginia, 32,318 new cases of invasive cancer were diagnosed in 2004, the most recent year for which comprehensive data were available for reporting, compared with 32,198 new cases in 2003 (Virginia Department of Health, Virginia Cancer Registry, 2006). Non-invasive cancer data for Virginia is incomplete. According to the American Cancer Society (ACS) (2008), an estimated 1.4 million new cases of cancer will be diagnosed in the United States, including 35,590 cases in Virginia. According to the National Cancer Institute (NCI) (as cited in American Cancer Society, 2008), one-in-two men and one-in-three women will develop cancer at some point in their life. The probability increases with age.

Based on state data from 2000 to 2004, the rate of newly diagnosed cases, or incidence rate, was 432.3 cases per 100,000 in Virginia, up from the previous five-year period (1999–2003), when the rate was 428.2 (Virginia Department of Health, Virginia Cancer Registry, 2006). The national rate was 470.1 cases per 100,000 for the years 2000 to 2004 (Ries et al., 2007). In comparison to other states and the District of Columbia, Virginia had the 45th highest cancer incidence rate among males (508.2) and the 38th highest rate among females (386.4) (U.S. Cancer Statistics Working Group, 2007).

Cancer incidence in Virginia increased overall by nearly 10 percent (10%) from 1995 to 2004. Rates for white males, white females, and black females increased, while rates for black males remained the same (see Figure 3).

Figure 3. Cancer Incidence Rate, All Sites, by Gender and Race, Virginia, 1995–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry, 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Commonly Diagnosed Cancers by Gender

Based on cases diagnosed in Virginia between 2000 and 2004 (Virginia Department of Health, Virginia Cancer Registry, 2006), the most common cancers in men were prostate, lung and bronchus, and colorectal cancers (Figure 4). The most common cancers in women were breast, lung and bronchus, and colorectal cancers. The top three cancers in men and women accounted for about 58 percent (58%) of all cancers among their respective groups.

Figure 4. Most Commonly Diagnosed Cancers by Gender, Virginia, 2000–2004

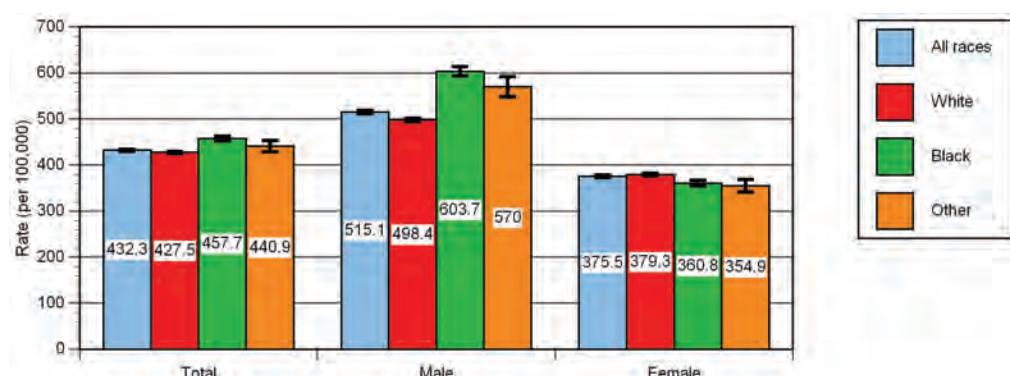
Top 10 Cancers among Males in Virginia (Count and Percent), 2000 – 2004			Top 10 Cancers among Females in Virginia (Count and Percent), 2000 – 2004		
Prostate	24,443	30.9%	Breast	23,907	32.6%
Lung and Bronchus	12,763	16.1%	Lung and Bronchus	9,760	13.3%
Colon and Rectum	8,646	10.9%	Colon and Rectum	8,496	11.6%
Urinary Bladder	4,666	5.9%	Corpus and Uterus, NOS	4,102	5.6%
Melanoma of the Skin	3,305	4.2%	Non-Hodgkin Lymphoma	2,558	3.5%
Non-Hodgkin Lymphoma	3,014	3.8%	Ovary	2,481	3.4%
Kidney & Renal Pelvis	2,605	3.3%	Melanoma of the Skin	2,452	3.3%
Oral Cavity and Pharynx	2,417	3.1%	Thyroid	1,777	2.4%
Leukemia	1,749	2.2%	Urinary Bladder	1,667	2.3%
Pancreas	1,596	2.0%	Pancreas	1,557	2.1%
All Sites - Males	79,148		All Sites – Females	73,278	

Source: Virginia Department of Health, Virginia Cancer Registry, 2006. Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder cancers.

Differences in Cancer Diagnoses by Gender and Race

Men were diagnosed with cancer at a 37 percent (37%) higher rate than women (515.1 vs. 375.5 per 100,000). Black men (603.7) had the highest rate, with men of other races (570) at somewhat lower rates (see Figure 5).

Figure 5. Cancer Incidence Rate, All Sites, by Gender and Race, Virginia, 2000–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry, 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" refers to Asians, Pacific Islanders, American Indians, and Alaskan Natives. Excludes basal and squamous cell skin cancers and in situ carcinomas except urinary bladder cancers.

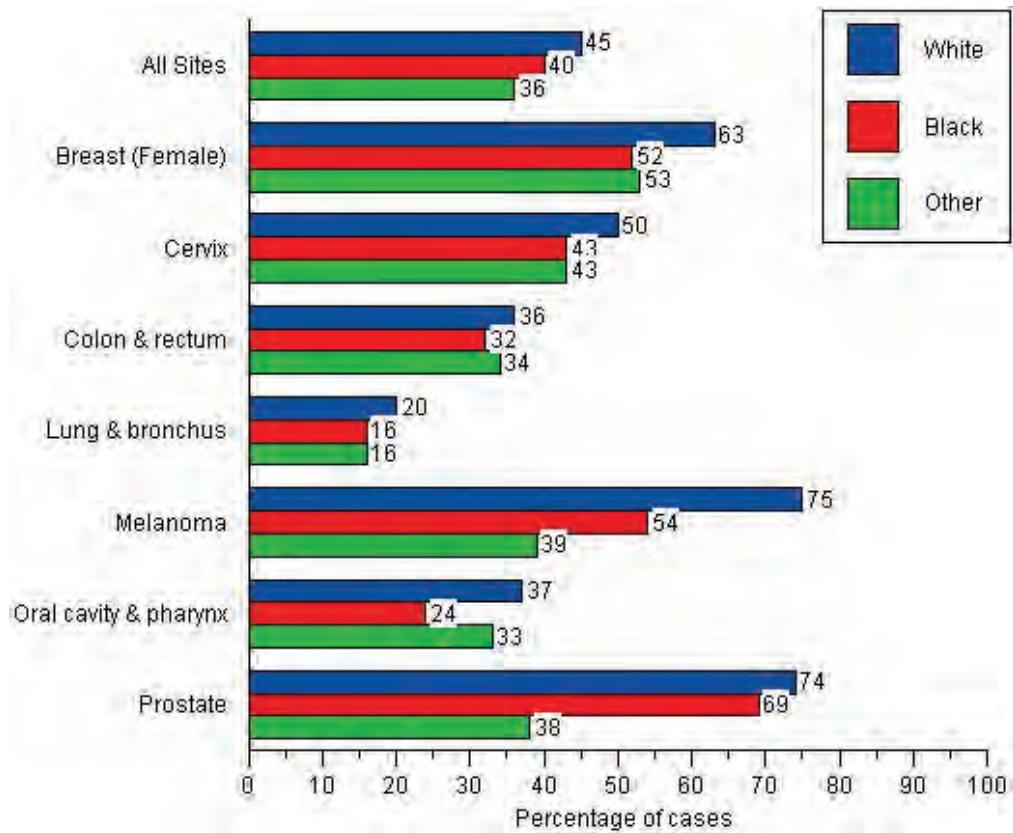
Stage at Diagnosis



Doctors describe cancers in terms of *stage* at the point of diagnosis. They consider the size and location of the tumor and whether or not it has *metastasized* (spread) from its original location to other parts of the body when staging the tumor. When the tumor has spread beyond its immediate location, it is invasive. The cancer stages are *in situ*, *local* (which is a noninvasive cancer), *regional*, *distant*, and *unknown*. Cancers diagnosed as *in situ* or *local* have a better treatment prognosis than cancers diagnosed as *regional* or *distant*.

Based on new cases diagnosed between 2000 and 2004 in Virginia, two percent (2%) of cancers were diagnosed *in situ* and 44 percent (44%) were diagnosed *local* (Virginia Department of Health, Virginia Cancer Registry, 2006). Blacks and people of other races are less often diagnosed with cancer at an early (local) stage compared with whites, especially for female breast and cervical cancers and skin melanoma (Figure 6). Compared with black and white men, men of other racial groups have a lower rate of early prostate cancer detection. As for cancers of the oral cavity and pharynx, black men are especially at risk: only 19 percent (19%) of oral cancers in black men are local stage when diagnosed, compared with 37 percent (37%) for black women, 33 percent (33%) for white men, and 44 percent (44%) for white women.

Figure 6. Cancer Cases Diagnosed at the Local Stage, by Site, by Race, Virginia, 2000–2004



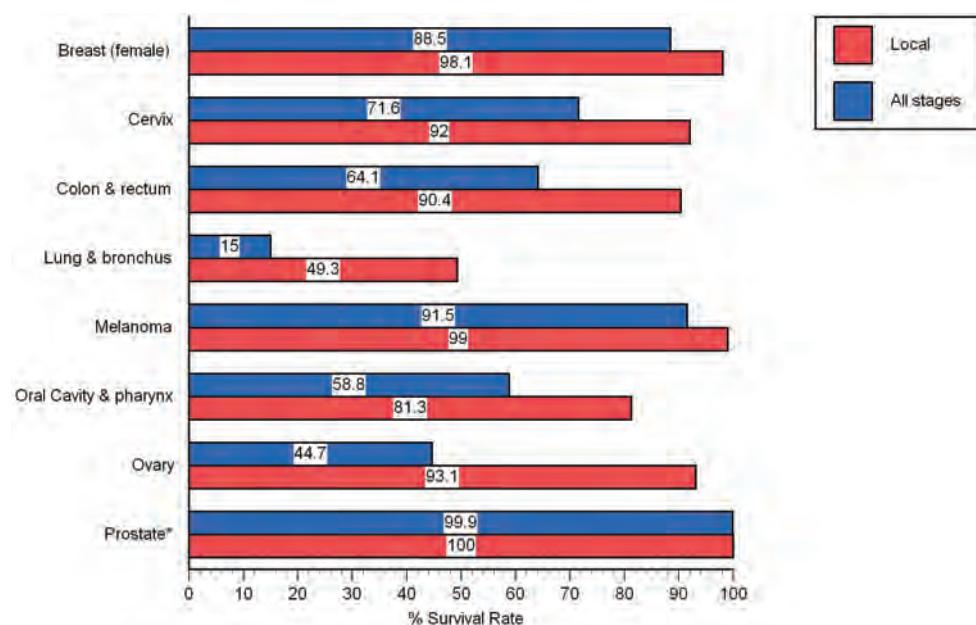
Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry, 2006. Excludes localized basal and squamous cell skin cancers and *in situ* cancers except urinary bladder cancers.

Cancer Survival Rate



The *five-year relative survival rate* refers to the chance of being alive five years after being diagnosed with cancer. Rates vary by type of cancer and stage at diagnosis. Relative survival compares survival rates of people diagnosed with cancer to people of the same age, sex, and race who are not diagnosed with cancer. The survival rate for all cancers diagnosed between 1996 and 2002 is 66 percent (66%); however, for cancers that are preventable or detected earlier through screening—which account for half of all new cancers diagnosed—the survival rate is eighty-six percent (86%) (American Cancer Society, 2007). Of the cancers referenced in Figure 7, the five-year relative survival rate can range from 49 percent (49.3%) for lung and bronchus cancer to 100 percent (100%) for prostate cancer, when the cancer stage is local (Ries et al., 2007). Figure 7 shows national five-year relative survival rates for specific cancers.

Figure 7. Five-Year Relative Survival Rates, United States, 1996–2002



Note. Figure created using data from: Ries et. al (eds). SEER Cancer Statistics Review, 1975–2003, National Cancer Institute. Bethesda, MD, (http://seer.cancer.gov/csr/1975_2003/), based on November 2005 SEER data submission, posted to the Surveillance, Epidemiology, and End Results (SEER) Program website, 2006.

* The rate for local stage represents local and regional stages combined for prostate cancer.

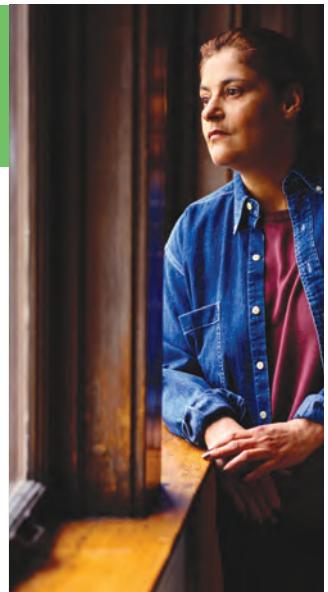
Cancer Deaths in Virginia

In Virginia, the proportion of deaths from cancer remained steady at about 25 percent (25%) from 1995 to 2005, while heart disease deaths fell from 30 percent (30%) to 24.5 percent (24.5%) over that time period (Virginia Department of Health, Virginia Division of Health Statistics, 2007). Cancer is second to heart disease as a leading cause of death in the United States. Since 1975, the proportion of deaths from heart disease has fallen from 38 percent (38%) to 27 percent (27%) in 2004, while the proportion of deaths from cancer has increased from 19 percent (19%) to 23 percent (23%) (Ries et al., 2007).

In 2005, 13,826 deaths due to cancer occurred in Virginia, more than occurred in 2004 (13,005) (Virginia Department of Health, Virginia Division of Health Statistics, 2007). According to the ACS (2008), an estimated 565,650 Americans, including 13,990 from Virginia, will die from cancer in 2008.

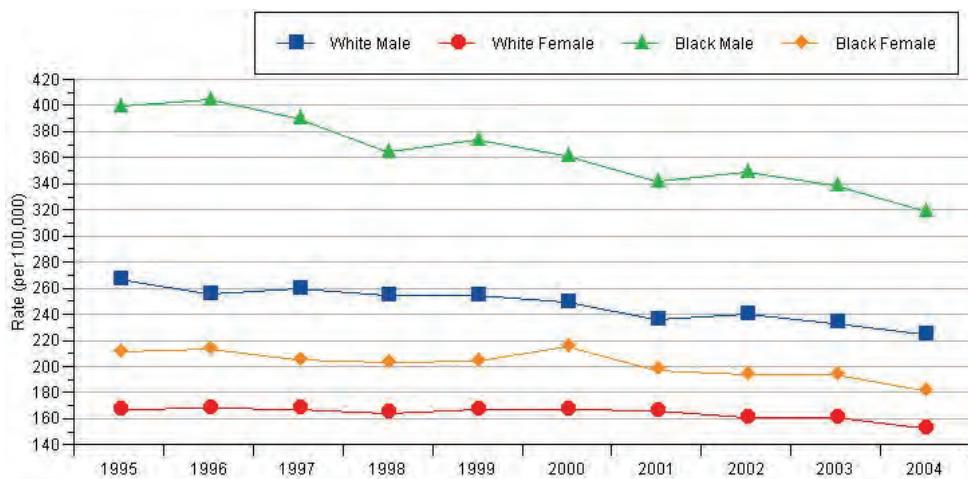
Based on state data from 2001 to 2005, the rate of deaths, or *mortality* rate, from cancer was 192.5 per 100,000 in Virginia, down from the 2000 to 2004 period, when the rate was 196.4 (Virginia Department of Health, Virginia Division of Health Statistics, 2007). This decrease in mortality is particularly encouraging since the incidence rate for cancer in Virginia increased by 10 percent (10%) from 1995 to 2004 (Virginia Department of Health, Virginia Cancer Registry, 2006). The national rate was 192.7 deaths per 100,000 for the most recently available reporting period (2000–2004) (Ries et al., 2007). One of the national health objectives from Healthy People 2010 is to reduce the cancer mortality rate to 159.9 deaths per 100,000 (U.S. Department of Health and Human Services, 2000).

Based on deaths from 2002 to 2004, Virginia had the 18th highest cancer death rate among males (244.7 per 100,000) and the 26th highest rate among females (161.8) compared with other states and the District of Columbia. The national mortality rates for men and women per 100,000, respectively, were 234.1 and 160.1 (U.S. Cancer Statistics Working Group, 2007).



Cancer mortality rates in Virginia decreased over a 10-year period from 1995 to 2004 (National Cancer Institute, 2006) for both men and women and both whites and blacks (see Figure 8). The largest decrease was for black men. Separate data for individuals of Hispanic origin are incomplete.

Figure 8. Cancer Mortality Rate, All Sites, by Gender and Race, Virginia, 1995–2004



Note. Figure created using data from: Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Leading Causes of Cancer-Related Death by Gender

Based on deaths from 2001 to 2005, Virginia men were more likely to die from lung, prostate, and colorectal cancers than any other types of cancer. Virginia women were more likely to die from lung, breast, and colorectal cancers (see Figure 9). These three leading cancers for men and women, respectively, accounted for about 52 percent (52%) of all cancer deaths (Virginia Department of Health, Division of Health Statistics, 2007).

Figure 9. Leading Causes of Death Due to Cancer by Gender, Virginia, 2001–2005

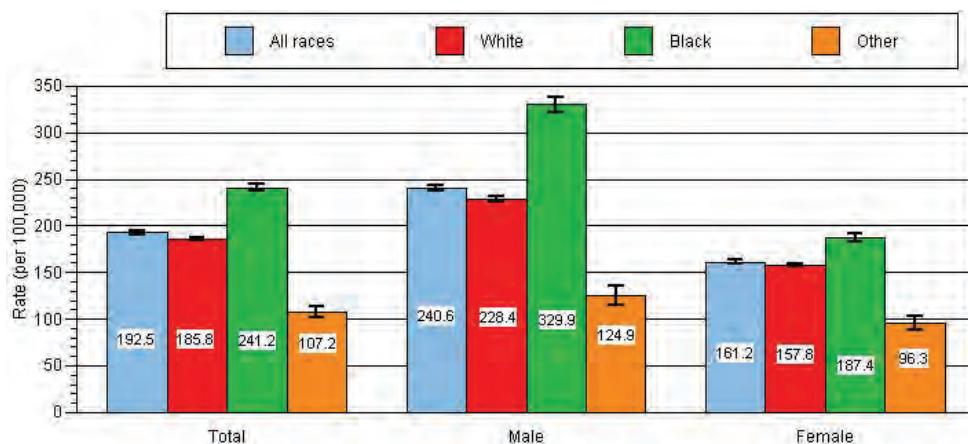
Top 10 Causes of Cancer Death (Count & Percent) among Males, Virginia, 2001 – 2005			Top 10 Causes of Cancer Death (Count & Percent) among Females, Virginia, 2001 – 2005		
Lung and bronchus	11,300	32.3%	Lung and bronchus	8,398	26.0%
Prostate	3,671	10.5%	Breast	5,323	16.5%
Colon and rectum	3,349	9.6%	Colon and rectum	3,217	9.9%
Pancreas	1,827	5.2%	Pancreas	1,862	5.8%
Leukemia	1,332	3.8%	Ovary	1,772	5.5%
Non-Hodgkin lymphoma	1,237	3.5%	Non-Hodgkin lymphoma	1,124	3.5%
Esophagus	1,187	3.4%	Leukemia	1,089	3.4%
Liver	1,003	2.9%	Uterus	819	2.5%
Urinary Bladder	953	2.7%	Multiple myeloma	693	2.1%
Kidney and renal pelvis	909	2.6%	Brain and other CNS	586	1.8%
All Sites - Males	34,971		All Sites – Females	32,344	

Source: Virginia Department of Health, Virginia Division of Health Statistics, 2007.

Differences in Cancer Mortality by Gender and Race

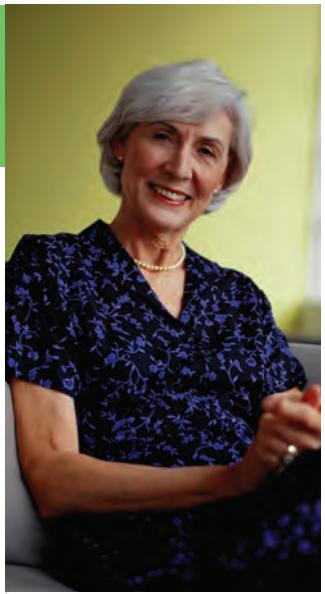
Men died of cancer at a 49 percent (49%) higher rate than women (240.6 vs. 161.2 per 100,000). Blacks, especially black men, have a higher mortality rate than whites and people of other races or ethnicities (see Figure 10).

Figure 10. Cancer Mortality Rate, All Sites, by Gender and Race, Virginia, 2001–2005



Note. Figure created using data from: Virginia Department of Health, Virginia Division of Health Statistics, 2007. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" refers to Asians, Pacific Islanders, American Indians, and Alaskan Natives. Separate data for individuals of Hispanic origin are incomplete.

Types of Cancer in Virginia



Cancers of the breast, cervix, colon and rectum, lung and bronchus, prostate, the mouth and other oral cavity areas (oropharyngeal), and skin melanoma are some of the most preventable cancers. Some are among the leading causes of cancer-related deaths. The following is a separate discussion of each type of cancer.

Breast Cancer

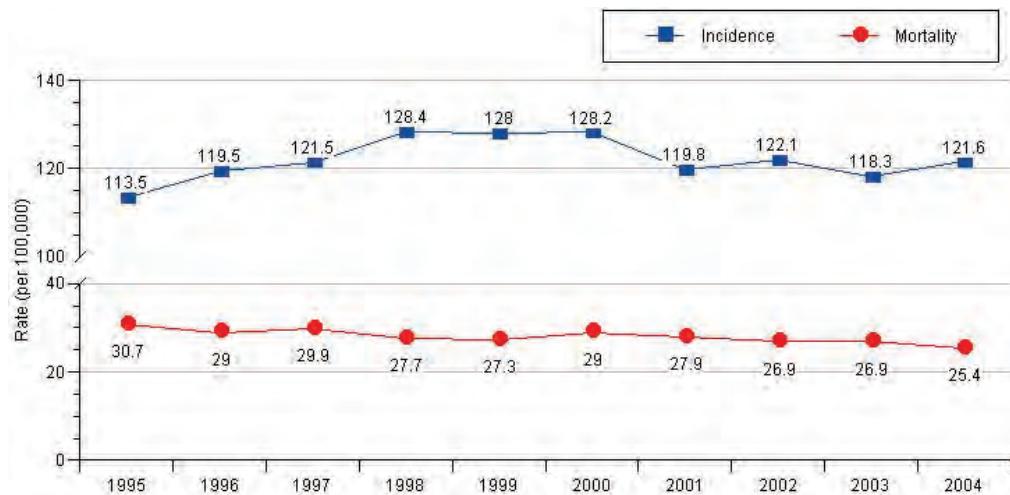
Breast cancer is the most commonly diagnosed cancer and the second leading cause of death from cancer among women in both Virginia and the United States. According to the ACS (2008), it is projected that in 2008:

- 182,460 breast cancers will have been diagnosed in the United States, including 4,680 cases in Virginia.
- 40,480 women will die from breast cancer in the United States, including 1,140 in Virginia.
- Female breast cancer will account for 26 percent (26%) of all new cancer cases and 15 percent (15%) of all cancer-related deaths in the United States among women.
- Women have a one-in-eight chance of developing breast cancer during their lifetime.

Virginia women were diagnosed with breast cancer at a rate of 121.9 cases per 100,000 (the U.S. rate is 127.8) and died from breast cancer at a rate of 26.4 per 100,000 (the U.S. rate is 25.5) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). Virginia has the 18th highest breast cancer incidence rate and the ninth-highest mortality rate, compared with other states and the District of Columbia (U.S. Cancer Statistics Working Group, 2007). The Healthy People 2010 objective is to reduce breast cancer deaths to 22.3 per 100,000 (U.S. Department of Health and Human Services, 2000).

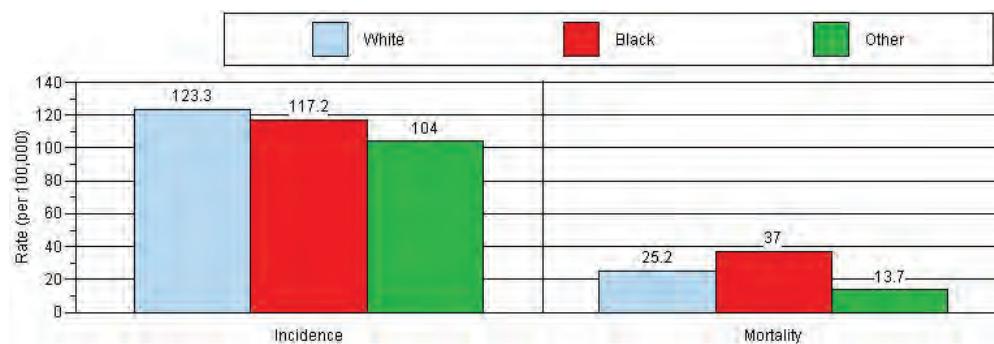
Between 1995 and 2004, female breast cancer incidence rose slightly in Virginia, while mortality dropped by 17 percent (17%) (National Cancer Institute, 2006) (see Figure 11). Death rates declined for both white women and black women.

Figure 11. Female Breast Cancer Incidence and Mortality Rate, Virginia, 1995–2004



Breast cancer incidence rates were highest among white women, while death rates were highest among black women (see Figure 12).

Figure 12. Female Breast Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004

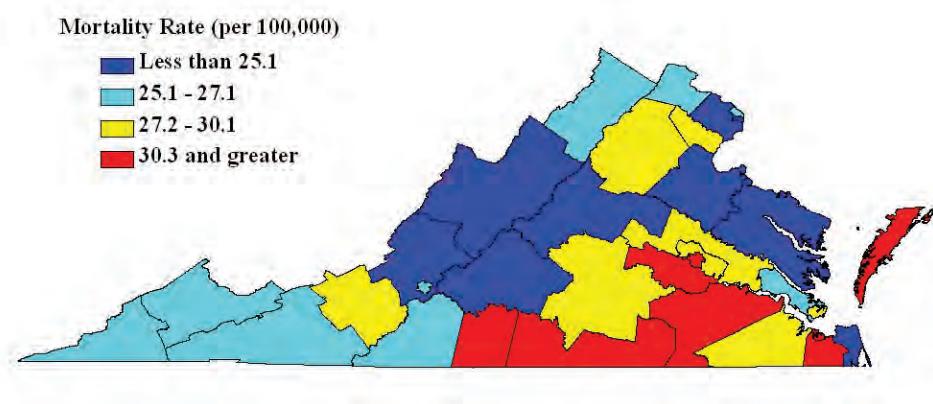


Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age adjusted to the 2000 U.S. standard population.

Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. “Other” includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals. Separate data for individuals of Hispanic origin are not available.

Women died of breast cancer at a greater rate in the eastern and south central regions of the state. The highest breast cancer rates per 100,000 in the Commonwealth occurred in the Portsmouth (36.5), Eastern Shore (35.2), and Crater (33.6) Health Districts (see Figure 13).

Figure 13. Breast Cancer Mortality Rate by Health District, Virginia, 2001–2005



Note. Figure created using data from: Virginia Department of Health, Virginia Division of Health Statistics, 2007. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Cervical Cancer

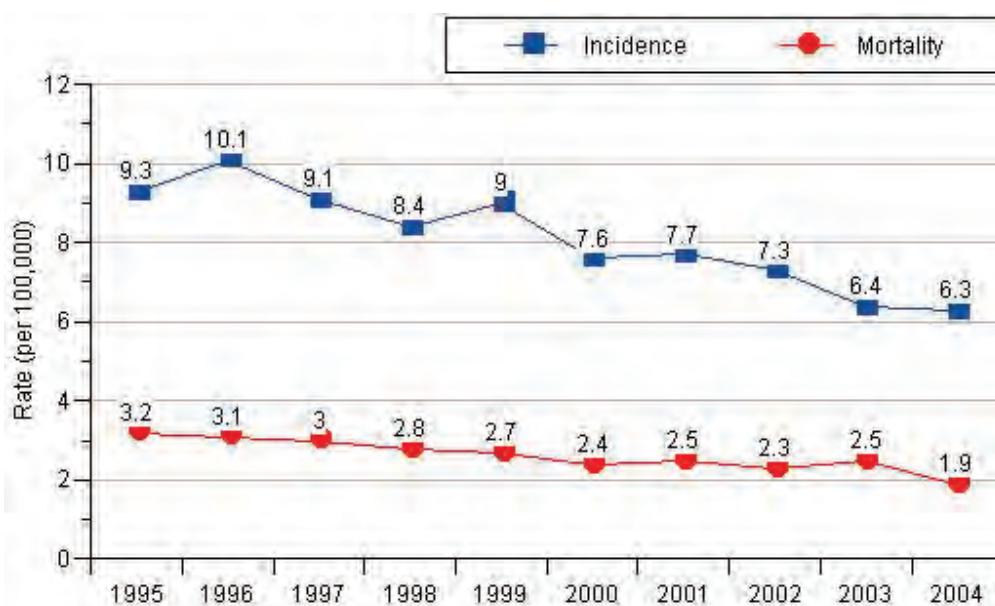
Cervical cancer is a less common cancer than other reproductive cancers (e.g., ovarian, uterine) and is not among the top 10 cancers diagnosed among women in both Virginia and the United States. It is even rarer as a cause of death due to cancer. According to the ACS (2008), it is projected that in 2008:

- 11,070 cervical cancers will be diagnosed in the United States, including 260 cases in Virginia.
- 3,870 women will die from cervical cancer in the United States, including on average 87 deaths from cervical cancer per year in Virginia.
- Cervical cancer will account for approximately 1.6 percent (1.6%) of all new cancer cases and 1.4 percent (1.4%) of all cancer related deaths in the United States among women.
- Women will have a 1-in-142 chance of developing cervical cancer during their lifetime.

In 2002, Virginia women were diagnosed with cervical cancer at a rate of 7.3 cases per 100,000 (the U.S. rate was 8.7) and died from cervical cancer at a rate of 2.3 per 100,000 (the U.S. rate was 2.6) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). The Healthy People 2010 objective is to reduce cervical cancer deaths to 2.0 per 100,000 (U.S. Department of Health and Human Services, 2000).

Overall, cervical cancer incidence declined by almost one-third between 1995 and 2004 (National Cancer Institute, 2006), while mortality declined by nearly 41 percent (41%) (see Figure 14). Death rates declined for both white women and black women for cervical cancer during the period.

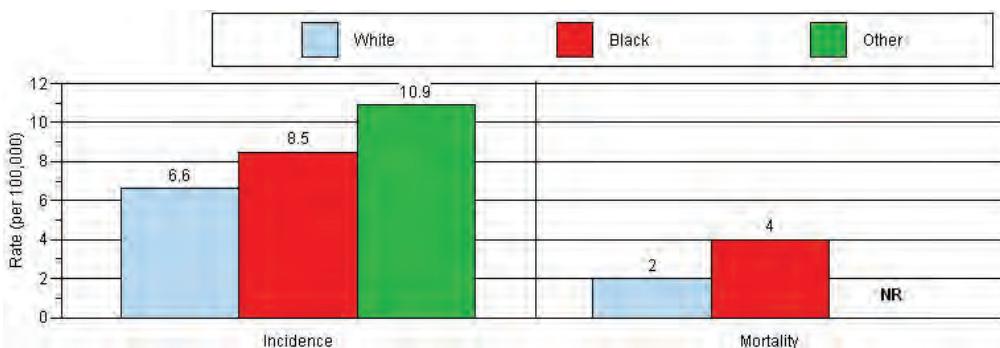
Figure 14. Cervical Cancer Incidence and Mortality Rate, Virginia, 1995–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

The cervical cancer incidence rate (per 100,000) was highest among nonwhite women (10.9). The mortality rate (per 100,000) for black women (4) was double the rate for white women (2) (see Figure 15). Mortality rates are not reported for all health districts because of the low number of deaths due to cervical cancer. However, the Pittsylvania-Danville (10.3), Norfolk (10.2), and West Piedmont (9.6) Health Districts had the highest rates per 100,000 of diagnosed cases of cervical cancer (Virginia Department of Health, Virginia Cancer Registry, 2006).

Figure 15. Cervical Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals. "NR" indicates that the rate is not reported due to an insufficient number of cases or deaths.

Colon (Colorectal) Cancer

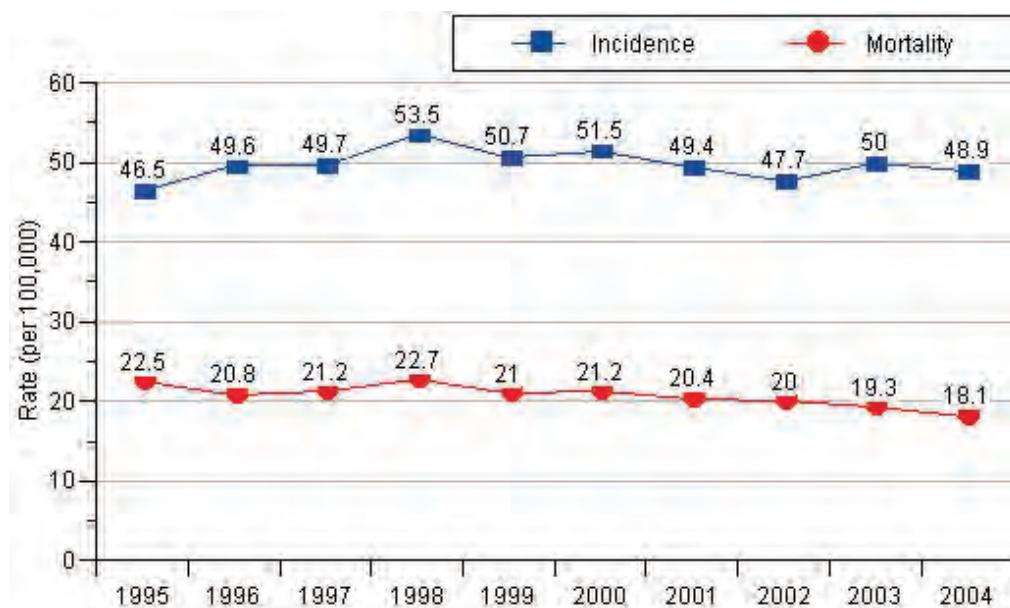
Colorectal cancer, also known as colon cancer, is the third most commonly diagnosed cancer and the third leading cause of death from cancer among both men and women in both Virginia and the United States (American Cancer Society, 2008). According to the ACS (2008) it is projected that in 2008:

- 148,810 colon cancers will be diagnosed in the United States, including 3,690 cases in Virginia.
- 49,960 people will die from colon cancer in the United States, including 1,260 in Virginia.
- Colon cancer will account for approximately 10 percent (10%) of all new cancer cases and 8 to 9 percent (8 to 9%) of all cancer-related deaths in the United States.
- Men have a 1-in-18 chance and women have a 1-in-19 chance of developing colon cancer during their lifetime.

Virginians were diagnosed with colon cancer at a rate of 49.4 cases per 100,000 (the U.S. rate is 51.6) and died from colon cancer at a rate of 18.9 per 100,000 (the U.S. rate is 19.4) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). Virginia had the 20th highest colon cancer death rate for men and the 30th highest rate for women compared with other states and the District of Columbia (U.S. Cancer Statistics Working Group, 2007). The Healthy People 2010 objective is to reduce colon cancer deaths to 13.9 per 100,000 (U.S. Department of Health and Human Services, 2000).

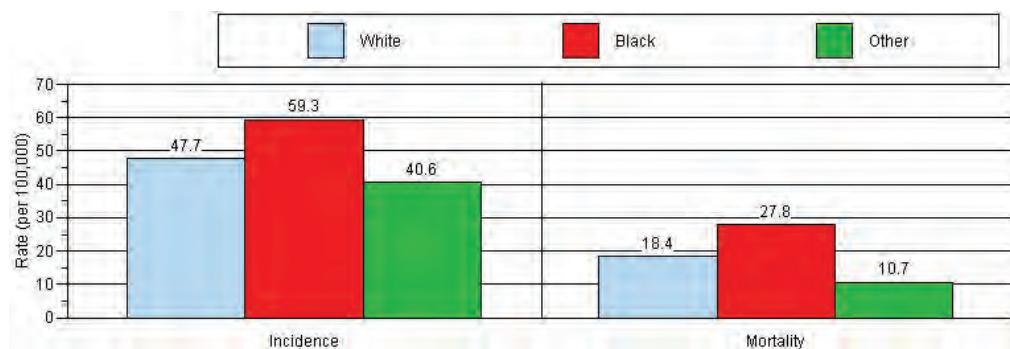
Colon cancer incidence increased slightly in Virginia between 1995 and 2004 (National Cancer Institute, 2006), while the death rate declined by almost 20 percent (20%) (see Figure 16). Both men and women and blacks and whites experienced declines in colon cancer deaths.

Figure 16. Colon Cancer Incidence and Mortality Rate, Virginia, 1995–2004



Colon cancer incidence and mortality rates were generally higher in men than women. Colon cancer incidence and mortality rates were highest among blacks—both men and women. Black men had the highest incidence rate (102.7 per 100,000) and mortality rate (33.2) (see Figure 17).

Figure 17. Colon Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004



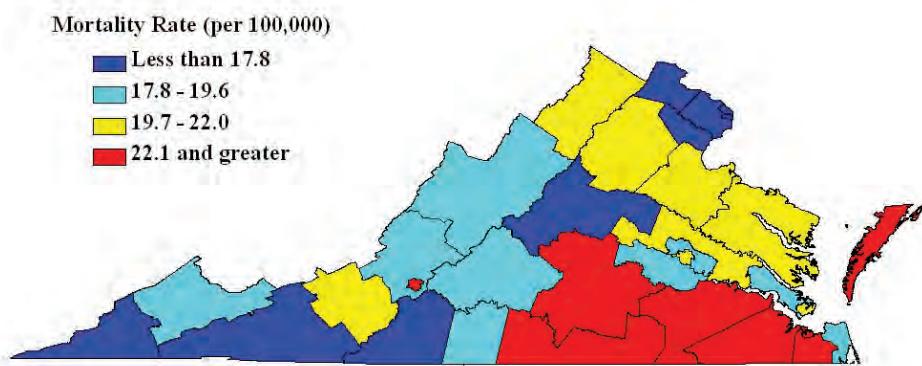
Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multi-racial individuals.

Rates of colon cancer deaths were higher in the south central region of the Commonwealth compared to other areas. Portsmouth (26.4) led all districts with the highest colon cancer mortality rate per 100,000, next followed by Crater (25.0), Western Tidewater (24.9), and Piedmont (24.6) (see Figure 18).

Figure 18. Colorectal Cancer Mortality Rate by Health District, Virginia, 2001–2005

Note. Figure created using data from: Virginia Department of Health, Virginia Division of Health Statistics, 2007. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.



Lung and Bronchus (Lung) Cancer

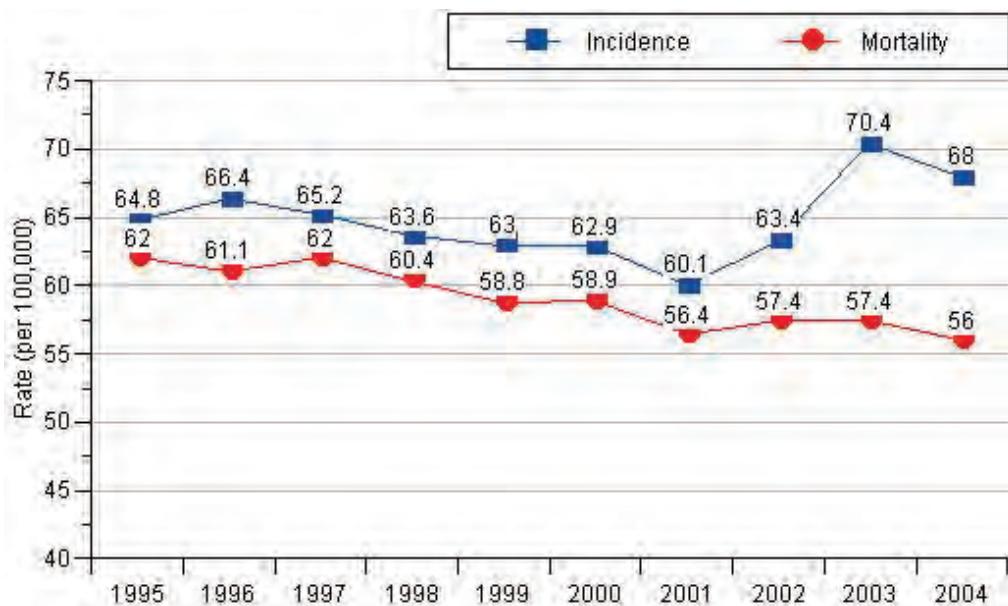
Lung and bronchus cancer (also known as lung cancer) is the second most commonly diagnosed cancer and the leading cause of death from cancer among both men and women in both the United States and Virginia (American Cancer Society, 2008). The ACS (2008), projects that:

- 215,020 lung cancers will be diagnosed in the United States, including 5,340 cases in Virginia.
- 161,840 people will die from lung cancer in the United States, including 4,600 in Virginia.
- Lung cancer will account for approximately 14 to 15 percent (14–15%) of all new cancer cases and 26 to 31 percent (26%–31%) of all cancer-related deaths in the United States.
- Men have a 1-in-13 chance and women have a 1-in-16 chance of developing lung cancer during their lifetime.

Virginians were diagnosed with lung cancer between 2000 and 2004 at a rate of 65.1 cases per 100,000 (the U.S. rate is 64.5) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). Between 2001 and 2005, Virginians died from lung cancer at a rate of 56.2 per 100,000 (the U.S. rate is 54.7) (Virginia Department of Health, Virginia Cancer Registry, 2007; Ries et al., 2008). Between 2002 and 2004, Virginia had the 18th highest lung cancer mortality rate for men and the 23rd highest mortality rate for women, compared with other states and the District of Columbia (U.S. Cancer Statistics Working Group, 2007). The Healthy People 2010

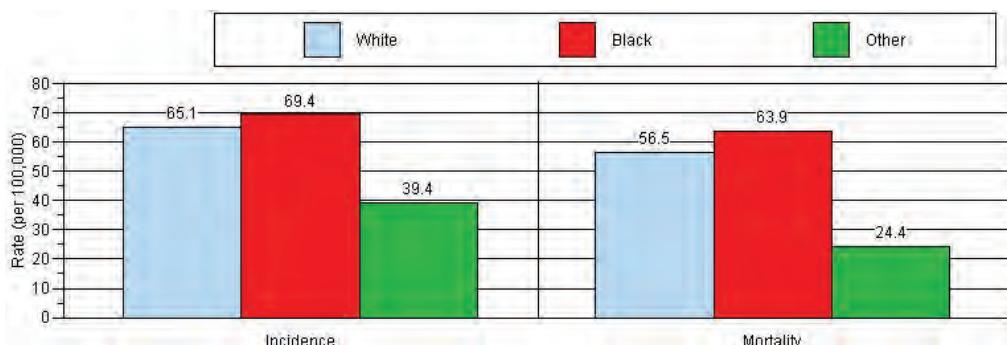
objective is to reduce lung cancer deaths to 44.9 per 100,000 (U.S. Department of Health and Human Services, 2000). Lung cancer rates had been declining until 2003, when they spiked, mainly due to rates for white females and black females going up in recent years. The death rates between 1995 and 2004 (National Cancer Institute, 2006) had also been declining for all Virginians (see Figure 19).

Figure 19. Lung Cancer Incidence and Mortality Rate, Virginia, 1995–2004



Lung cancer incidence and mortality were higher in men than women. Lung cancer incidence rates were similar for whites and blacks and lowest in people of other races. Blacks had a higher mortality rate than either whites or people of other races (see Figure 20). Black men had the highest incidence (102.7 per 100,000) and mortality rates (98.8).

Figure 20. Lung Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004



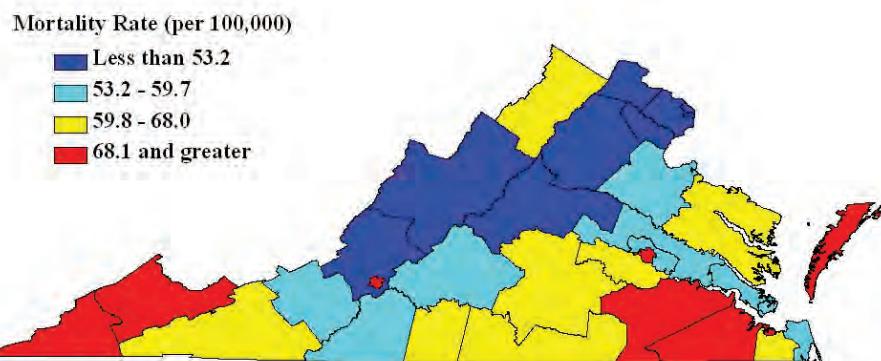
Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals.

Lung cancer mortality rates were highest in the southwestern and eastern parts of the Commonwealth. Eastern Shore (78.6) led all health districts with the highest lung cancer mortality rate per 100,000, next followed by Lenowisco (78.2) and Crater (72.9) (see Figure 21).

Figure 21. Lung Cancer Mortality Rate by Health District, Virginia, 2001–2005

Note. Figure created using data from: Virginia Department of Health, Virginia Division of Health Statistics, 2007. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.



Melanoma (Skin Cancer)

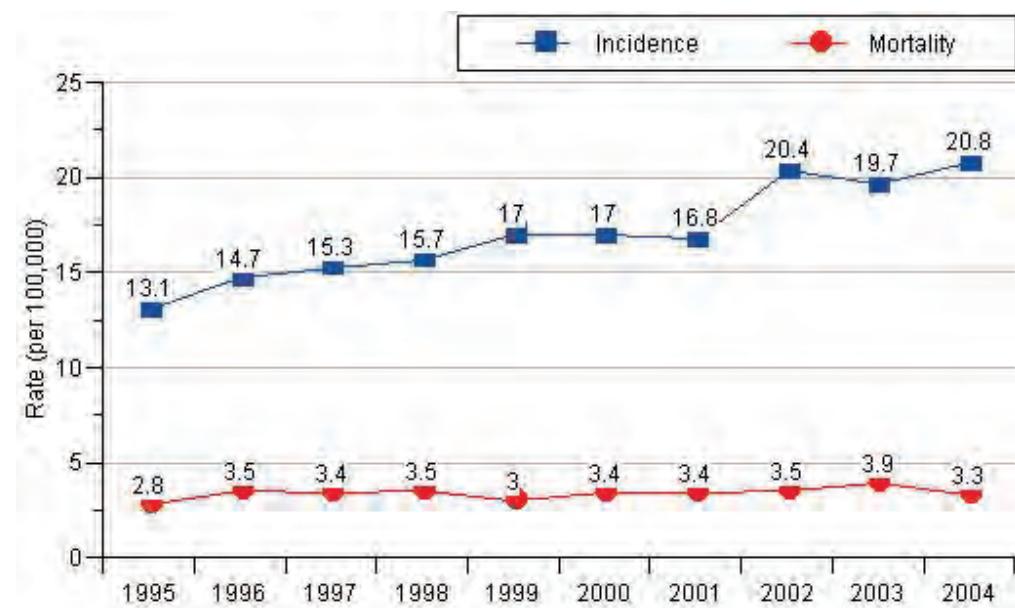
In Virginia, the incidence of melanoma, the most serious form of skin cancer, ranks fifth for both men and women. In the United States, it is the sixth most commonly diagnosed cancer among both men and women. However, deaths from melanoma are rare. According to the ACS (2008), it is projected that:

- 62,480 melanomas will be diagnosed in the United States, including 1,620 cases in Virginia.
- 8,420 people will die from melanoma in the United States, including on average 205 deaths from melanoma per year (2001–2005) in Virginia (calculation based on Virginia Department of Health, Virginia Division of Health Statistics data for years 2001–2005).
- Melanoma will account for four to five percent (4–5%) of all new cancers diagnosed in the United States.
- Men have a 1-in-41 chance and women have a 1-in-61 chance of developing skin melanoma during their lifetime.

Virginians were diagnosed with melanoma at a rate of 16 cases per 100,000 (the U.S. rate is 18.5) and died from melanoma at a rate of 2.9 per 100,000 (the U.S. rate is 2.6) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). The Healthy People 2010 objective is to reduce melanoma deaths to 2.5 per 100,000 (U.S. Department of Health and Human Services, 2000).

Melanoma is about 16 times more likely to develop in whites than blacks. Looking at whites only, incidence rates had been increasing, while death rates remained steady between 1995 and 2004 (National Cancer Institute, 2006) (see Figure 22).

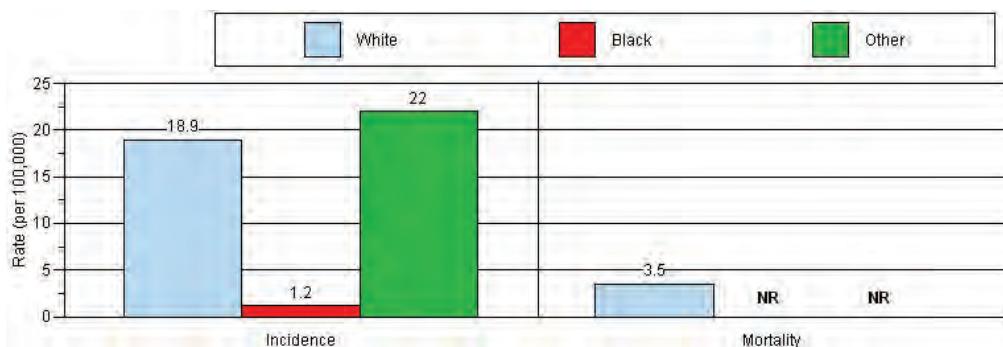
Figure 22. Melanoma Incidence and Mortality Rates (Whites Only), Virginia, 1995–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Rates of diagnosis of melanoma were more than 15 times higher in whites than blacks. Incidence rates for people of other races were similar to rates for whites. Rates of death due to melanoma for blacks and people of other races were also lower (see Figure 23). Because of the low numbers of deaths due to skin melanoma in several health districts, the rates are not reported. However, the Eastern Shore (33.6), Loudoun (21.9), and Chesterfield (21.3) Health Districts had the highest rates per 100,000 of diagnosis of melanoma in the Commonwealth.

Figure 23. Melanoma Incidence and Mortality Rate by Race, Virginia, 2000–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals. "NR" indicates that the rate is not reported due to an insufficient number of cases or deaths.

Oropharyngeal (Oral) Cancer

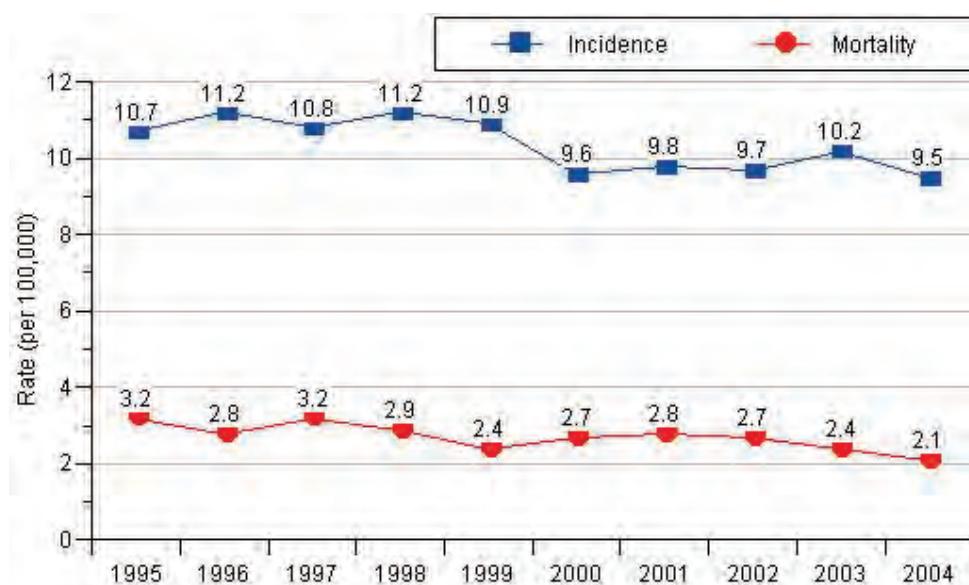
Oropharyngeal cancer, also known as oral cancer, includes cancers of the mouth (oral cavity), lip, and pharynx (throat). Oral cancers are ranked among the 10 most commonly diagnosed cancers among men in Virginia and the United States. According to the ACS (2008), it is projected that in 2008:

- 33,310 cases of oral cancer will be diagnosed, primarily among men, in the United States, including an average of 483 cases in Virginia (calculation based on 2000-2004 data, Virginia Department of Health, Virginia Division of Health Statistics, 2006).
- 7,590 people will die from oral cancers in the United States, including 170 deaths from oral cancer per year in Virginia (calculation based on 2000-2004 data, Virginia Department of Health, Virginia Division of Health Statistics, 2006).
- Oral cancer will account for 3 percent (3%) of all new cancers diagnosed in the United States.
- Men have slightly more than a 1 percent (1.4%) chance and women will have less than a 1 percent (0.7%) chance of developing oral cancer during their lifetime (Ries et al., 2008).

Virginians were diagnosed with oral cancer at a rate of 14.7 cases per 100,000 (the U.S. rate is 10.5) and died from oral cancer at a rate of 2.4 deaths per 100,000 (the U.S. rate is 2.7) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). The Healthy People 2010 objective is to reduce oral cancer deaths to 2.7 per 100,000, which Virginia has met (U.S. Department of Health and Human Services, 2000).

Oral cancer diagnoses have declined by 11 percent (11%) and oral cancer deaths have declined by 32 percent (32%) from 1995 to 2004 (National Cancer Institute, 2006) (see Figure 24). The decline has been especially noticeable among black men.

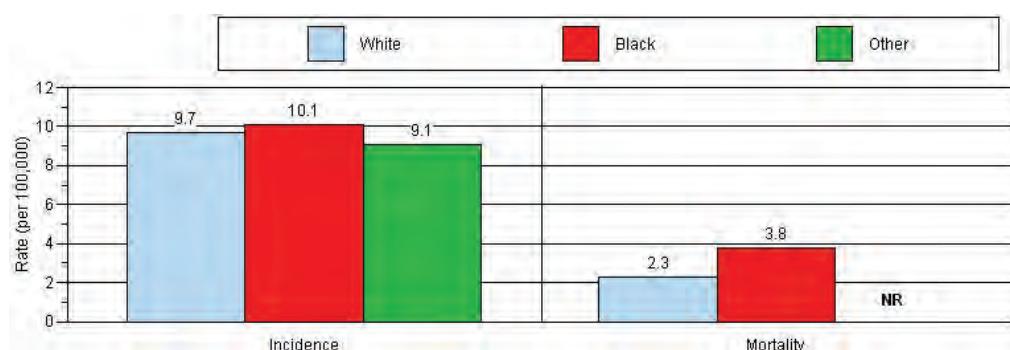
Figure 24. Oral Cancer Incidence and Mortality Rates, Virginia, 1995–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (www.cdc.gov/nchs). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Men are two to three times more likely than women to be diagnosed and to die from oral cancer. Oral cancer incidence rates were highest among black males (16.9 per 100,000) and lowest among males of other races (12.2). Blacks had the highest mortality rates from oral cancer (see Figure 25).

Figure 25. Oral Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; VDH, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals. "NR" indicates that the rate is not reported due to an insufficient number of cases or deaths.

Because of the low numbers of deaths due to oral cancer in several health districts, the rates are not reported. However, the Eastern Shore (16.4), Crater (13.2), Norfolk (12.9), Richmond City (12.6), and Rappahannock/Rapidan (12.3) Health districts had the highest rates per 100,000 of diagnosis of oral cancer in the Commonwealth.

Prostate Cancer

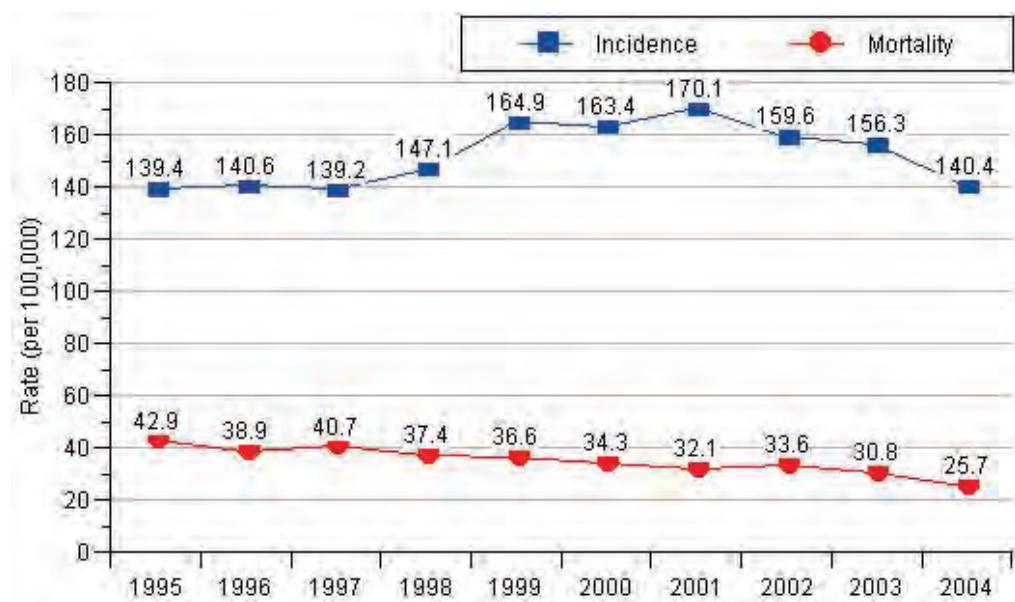
Prostate cancer is the most commonly diagnosed cancer and the second leading cause of death from cancer among men in both Virginia and the United States. According to the ACS (2008), it is projected that:

- 186,320 cases of prostate cancer will be diagnosed in the United States, including 4,430 cases of prostate cancer in Virginia.
- 28,660 men will die from prostate cancer in the United States, including 630 in Virginia.
- Prostate cancer will account for 25 percent (25%) of all new cancer cases and 10 percent (10%) of all cancer-related deaths in the United States.
- Men have a one-in-six chance of developing prostate cancer during their lifetime, with most prostate cancers occurring after age 70.

Virginia men were diagnosed with prostate cancer at a rate of 157.7 cases per 100,000 (the U.S. rate is 168.0) and died from prostate cancer at a rate of 29.5 per 100,000 (the U.S. rate is 27.9) (Virginia Department of Health, Virginia Cancer Registry, 2006; Ries et al., 2007). Although Virginia has the 39th highest prostate cancer incidence rate, compared with other states and the District of Columbia, it has the ninth highest mortality rate (U.S. Cancer Statistics Working Group, 2007). The Healthy People 2010 objective is to reduce prostate cancer mortality to 28.8 per 100,000 (U.S. Department of Health and Human Services, 2000).

Prostate cancer incidence had been increasing in Virginia between 1995 and 2001 (Virginia Department of Health, Virginia Cancer Registry, 2006). Between 1995 and 2004 (National Cancer Institute, 2006), death rates had been declining (see Figure 26).

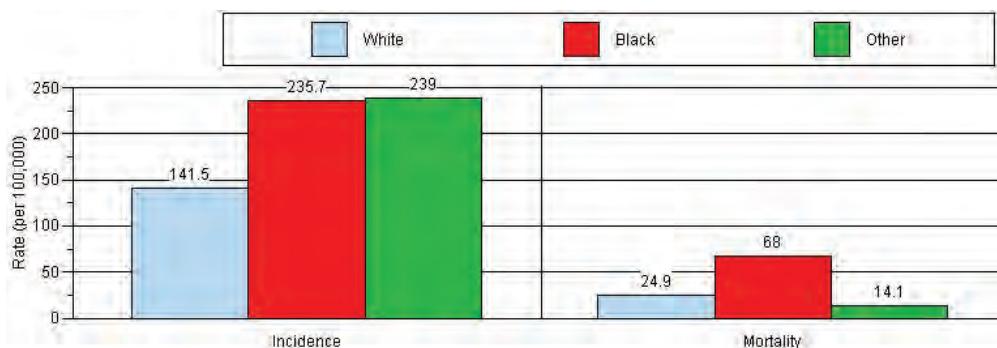
Figure 26. Prostate Cancer Incidence and Mortality Rate, Virginia, 1995–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (cancer incidence), 2006; Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality—Virginia Cancer Deaths, (1995–2004), National Cancer Institute, Division of Cancer Control and Population Sciences, Surveillance Research Program, Cancer Statistics Branch, submission November 2006. Underlying mortality data provided by the National Center for Health Statistics (<http://www.cdc.gov/nchs>). Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Prostate cancer incidence rates were highest among black men and men of other races. Mortality rates for black men were almost three times the rate of white men (see Figure 27).

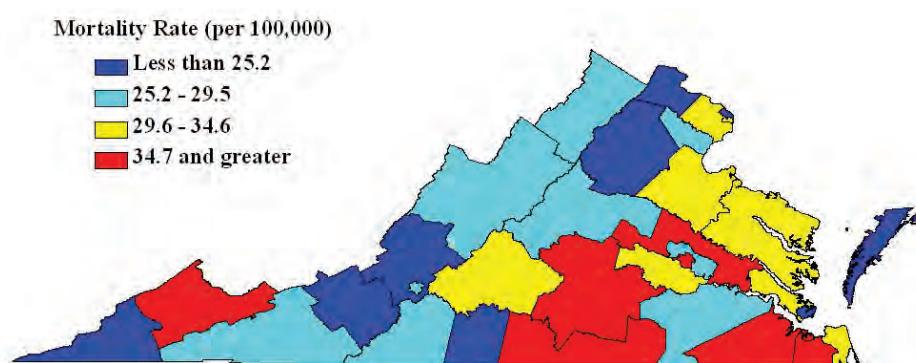
Figure 27. Prostate Cancer Incidence and Mortality Rate by Race, Virginia, 2000–2004



Note. Figure created using data from: Virginia Department of Health, Virginia Cancer Registry (incidence), 2006; Virginia Department of Health, Virginia Division of Health Statistics (mortality), 2006. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population. "Other" includes Asians, Pacific Islanders, American Indians, Alaskan Natives, and multiracial individuals.

The highest rates of death from prostate cancer tend to occur in areas with a greater percentage of black residents (Figure 28). Chesapeake (40.9) led all health districts with the highest prostate cancer mortality rate per 100,000, followed by Western Tidewater (40.6) and Norfolk (39.8). The Southside (39.6) and Richmond City Health Districts (39.5) rounded out the top five.

Figure 28. Prostate Cancer Mortality Rate by Health District, Virginia, 2001–2005



Note. Figure created using data from: Virginia Department of Health, Virginia Division of Health Statistics, 2007. Rates (per 100,000) are age-adjusted to the 2000 U.S. standard population.

Children and Cancer



The diagnosis of cancer in a child is heartrending. A parent is never prepared to hear that their child has cancer. Childhood cancer, also known as *pediatric cancer*, is not common. However, it is the second leading cause of death for children; accidents are the first. Diagnosis, treatment, and prognosis for childhood cancer are different than for adults. The main differences are the survival rates and the cause of the cancer. The five-year relative survival rate for childhood cancer is about 80 percent (80%) (American Cancer Society, 2008), while in adults the cancer survival rate is 65 percent (65%) (Ries et al., 2008). The difference is attributable to childhood cancer being more responsive to therapy and a child being able to tolerate more aggressive therapy. Cancer in a child requires immediate attention and care from specialists experienced with treating cancer in children. Children who survive cancer require careful attention for the rest of their lives because cancer treatment may have long-term side effects (American Cancer Society, 2007; Children's Oncology Group, 2006).

Childhood cancers often occur or begin in the stem cells, which are simple cells capable of producing other types of specialized cells that the body needs. A sporadic or random cell change or mutation is usually what causes childhood cancer. In adults, the type of cell that becomes cancerous is usually an epithelial cell, which is one of the cells that line the body cavity, including the surfaces of organs, glands, and body structures. These cells also cover the body surface. Cancer in adults often occurs when these cells are subject to damaging environmental exposures over time. For this reason, adult cancers are sometimes referred to as acquired. (American Cancer Society, 2008).

In Virginia, there were 1,421 cases of cancer among persons under the age of 20 between 2000 and 2004 (766 cases in males and 655 cases in females). In 2004, there were 314 cases. These pediatric cancer cases occurred at a rate of 14.3 per 100,000. Pediatric cancers occurred at a comparable rate between males (15.0) and females (13.5) (Virginia Department of Health, Virginia Cancer Registry, 2006)

The most common types of cancers diagnosed among children and youth are leukemia, brain and other central nervous system cancers, and Hodgkin lymphoma. These three cancers account for over half of all pediatric cases of cancer. Although incidence rates for these cancers are much higher among adults, compared with children and youth, the percentage of all cases accounted for by these three cancers is higher among children and youth. For example, leukemia accounts for 25 percent (25%) of all childhood cancers, but only accounts for 1.8 percent (1.8%) of all adult cancers (Li, Thompson, Miller, Pollack, and Stewart, 2008).

In Virginia between 2001 and 2005, there were 210 cancer deaths among children and youth under the age of 20. Children died of cancer at a rate of 6 per 1,000,000 (Virginia Department of Health, Virginia Division of Health Statistics, 2007).

Costs Associated With Cancer



The National Institutes of Health estimate the total costs for cancer in the United States in 2007 to be \$219.2 billion, including \$89.0 billion for direct medical costs (health expenditures), \$18.2 billion in indirect morbidity costs (lost productivity due to illness), and \$112.0 billion for indirect mortality costs (lost productivity due to premature death) (American Cancer Society, 2008). In 2005, there were 1.2 million discharges (hospitalizations), 28.7 million office-based physician visits, and 1.4 million hospital outpatient (emergency) department visits due to cancer in the United States (DeFrances, Cullen, and Kozak, 2007; Cherry, Woodwell, and Rechtsteiner, 2007; Middleton, Hing, and Xu, 2007).

In Virginia, there were 25,766 hospital discharges (stays) due to cancer in 2004, for total charges of \$769 million (see Table 2). The average charge was close to \$30,000 per stay. Colorectal and lung cancers had the greatest number of hospital stays, total charges, and total patient days. Although there were fewer hospitalizations associated with oral cancer, it was second to colorectal cancer in terms of average total charges and average length of stay (Ward, 2006).

Table 2. Cancer Hospital Discharges and Total Charges, by Primary Diagnosis, Virginia, 2004

	Number of stays	Total charges (in millions)	Average charge per stay	Number of patient days	Average LOS** (in days)
All sites (combined)*	25,766	\$769.2	\$29,853	181,140	7.03
Breast (female)	1,733	\$30.0	\$17,302	4,406	2.54
Cervix	279	\$5.59	\$20,038	1,131	4.05
Colon and rectum	3,496	\$92.7	\$36,876	21,886	8.90
Trachea, bronchus, and lung	3,432	\$101.3	\$29,509	25,162	7.33
Lip, oral cavity, and pharynx	390	\$13.5	\$34,648	3,072	7.88
Ovary	606	\$16.5	\$27,298	4,292	7.08
Skin melanoma	63	\$1.1	\$16,944	249	3.95
Prostate	1,608	\$31.2	\$19,407	5,037	3.13

Source: Virginia Health Information, Hospital Discharge Patient-Level Dataset (PLD, 2004).

* Hospitalizations (stays) for a primary diagnosis of malignant neoplasm (ICD-9-CM 140–208), and for cancers of the breast (ICD-9 174; female only), cervix (ICD-9 180), colon and rectum (ICD-9 153–4, 159), trachea, bronchus, and lung (ICD-9 162), skin melanoma (ICD-9 172), lip, oral cavity, and pharynx (ICD-9 140–149), ovary (ICD-9 183), and prostate (ICD-9 185).

** LOS = length of stay

An examination of the period between 1998 and 2003 reveals noteworthy trends in terms of hospital costs due to cancer (Virginia Health Information, 2004a, 2004b). Over the five-year period, there was a decrease in both the total number of hospitalizations and the total days of hospitalization (see Table 3). There were increases, however, in both the average length of stay and the average charge per stay. The largest increase shown is in the total charges for those hospitalized with cancer and cancer-related care going from \$469 million to \$704 million, an increase of almost 70 percent (70%).

Table 3. Cancer Hospital Discharges and Total Charges, Virginia, 1998 versus 2003

	1998	2003
Number of stays (hospitalizations)	27,302	25,934
Average LOS*	7.27	7.39
Average charge per stay	\$17,248	\$27,000
Total charges	\$469 million	\$704 million
Total days hospitalized	198,217	189,683

Source: Virginia Health Information, Hospital Discharge Patient-Level Dataset (PLD, 1998 and 2003)

* LOS = length of stay

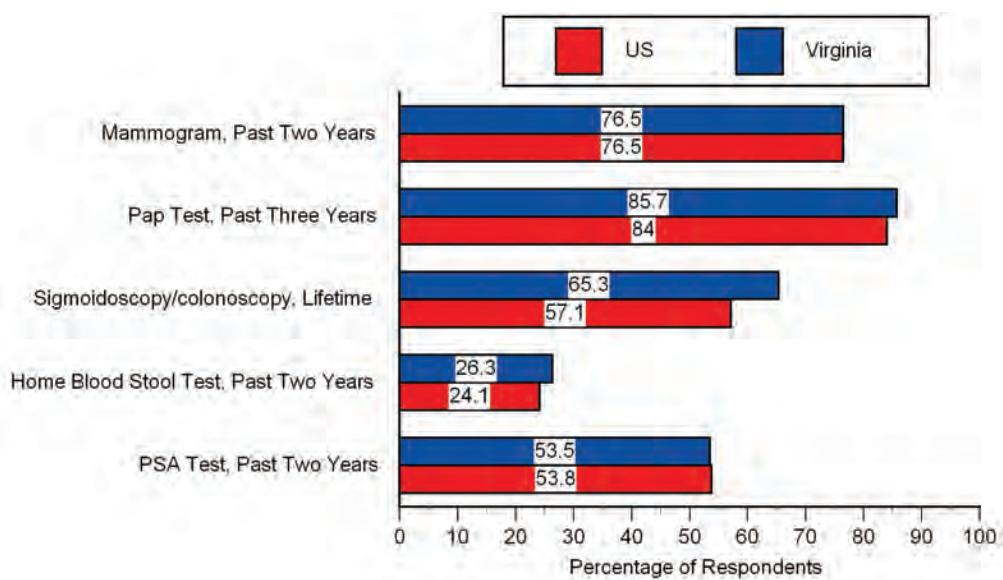
Cancer and Early Detection in Virginia



Some of the decline in cancer deaths is due to an increase in prevention, early detection (screening), and better cancer treatment. Cancers that can be prevented or detected earlier account for at least half of all new cases (American Cancer Society, 2008). According to the 2006 Behavioral Risk Factor Surveillance System (BRFSS), a multistate adult health behaviors survey supported by the Centers for Disease Control and Prevention (CDC) (2006a), many Virginians are screened for cancer as recommended for their age group (see Figure 29):

- 77 percent (77%) of women ages 40 and older had a mammogram in the past two years, and 86 percent (86%) of women 18 and older (with an intact cervix) had a Pap test in the past three years.
- 65 percent of adults ages 50 and older had either a colonoscopy or sigmoidoscopy to test for colon cancer. This is significantly higher than the national rate. Between 57 percent (57%) and 63 percent (63%) had their last exam within five to 10 years. Fewer (26.3%) adults in the same age group had a home blood stool test (also known as a fecal occult blood test, or FOBT) in the past two years.
- 54 percent (54%) of men ages 40 and older had a prostate-specific antigen (PSA) test—a screening test for prostate cancer—in the past two years. The ACS recommends that men ages 50 and older should routinely start having this screening (or start at age 45 if a high-risk male, that is, those who are African-American or who had a first-degree relative—father or brother—who had prostate cancer). Seven of 10 (69.7%) men ages 50 and older had a PSA test in the past two years.
- 46 percent (46%) of adults have had a doctor check their mouth for signs of oral cancer.
- Almost 40 percent (40%) of adults had an oral cancer screening in the past two years.

Figure 29. Preventive Cancer Screening, Virginia and United States, 2006



Note. Figure created using data from: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2006. Retrieved May 14, 2008. Percentages are weighted. National rates as reported represent the median rate among the 50 states, District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands.

Virginia is close to meeting the Healthy People 2010 objectives for mammography (see Table 4), Pap test screening, and colon cancer screening (endoscopy only). It lags behind in terms of rates of FOBT. There is no goal for PSA screenings.

Table 4. Selected Cancer Screening Targets versus Virginia Baseline

Healthy People 2010 Objective	U. S. Target	Virginia Baseline 2006
Increase the proportion of women age 40 years and older who have received a mammogram within the preceding two years	70%	76.5%
Increase the proportion of women who receive a Pap test within the preceding three years	90%	85.6%
Increase the proportion of adults age 50 years and older who have ever received a sigmoidoscopy	50%	65.3%
Increase the proportion of adults age 50 and older who have received a FOBT within the preceding two years	50%	26.3%

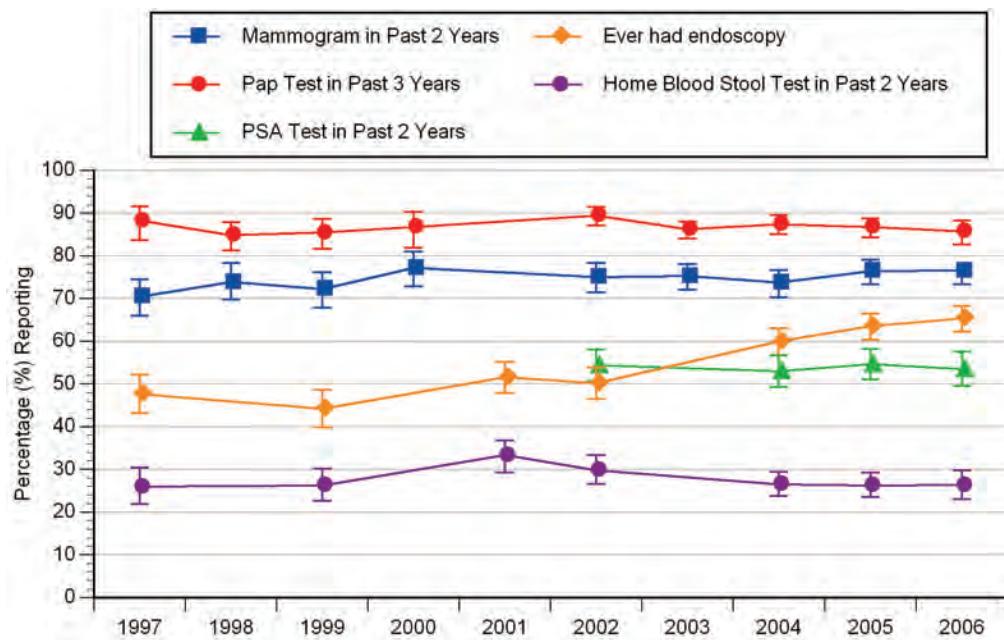
Note. Table created using data from Healthy People 2010; Virginia BRFSS, 2006

Trends in Cancer Screening

Between 1997 and 2006 (Centers for Disease Control and Prevention, 2006a), the rate of mammography screening in Virginia increased slightly from 70 percent (70%) to almost 77 percent (77%) (see Figure 30). Over that same time period, the rate of women getting Pap tests remained the same. The rate of men ages 40 and older having a PSA test remained unchanged from 2002 to 2006. The rate of colon endoscopy increased between 1997 and 2006. The percentage of adults who have had an FOBT remained unchanged over time. PSA testing questions were not asked on the BRFSS prior to 2002.

Virginia-specific questions regarding oral cancer screening have been added to the BRFSS in recent years. The percentage of adults, who have had an oral cancer screening increased between 2003 and 2006, from 38 percent (38.1%) to 46 (45.7%) (Centers for Disease Control and Prevention, 2006a).

Figure 30. Preventive Cancer Screening, Virginia, 1997–2006



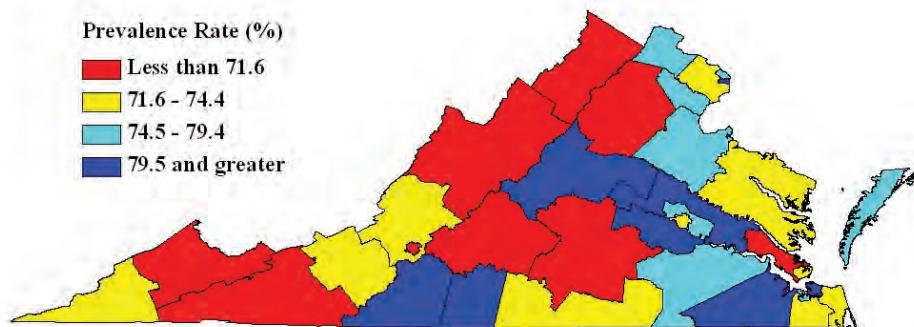
Note. Figure created using data from: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2006. Percentages are weighted.

Differences in Access to Cancer Screening

Among the factors affecting the likelihood of participating in cancer screening are income, education, access to health care, and other factors. Significant factors leading to a higher risk for breast cancer death include low annual household income (e.g., less than \$35,000), lack of insurance, less education (e.g., no high school diploma), presence of disability, and low mammography screening rates. Women who have lower income and less education, and who are uninsured and older tend to have lower rates of Pap test screening, which puts them at greater risk for cervical cancer incidence and death (Virginia Comprehensive Cancer Control Project, 2007).

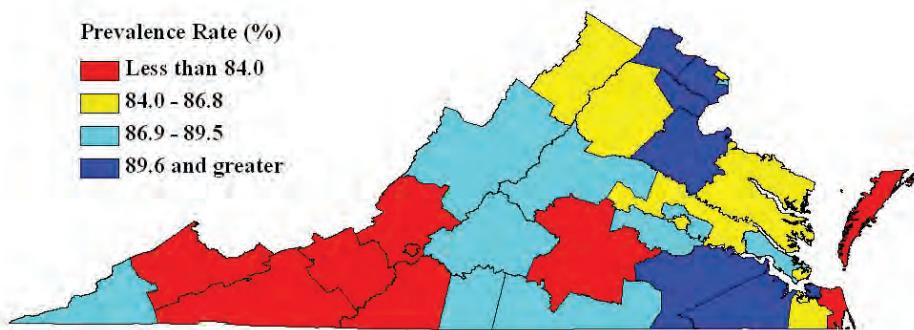
Geography contributes to gaps in mammography and Pap test rates. Less populated, more rural areas of the Commonwealth had screening rates ranging from 10 percent (10%) to 15 percent (15%) lower than other regions. Mammography and Pap test rates vary by health district (see Figures 31 and 32).

Figure 31. Mammogram by Health District, Women 40 and Older, Virginia, 2004 & 2005



Note. Figure created using data from: Virginia Department of Health, 2004 and 2005; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted. Females ages 40 and older were asked if they had a mammogram within the past two years.

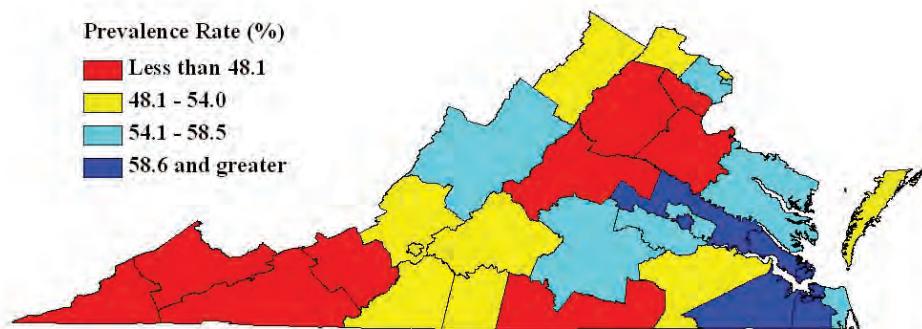
Figure 32. Pap Test by Health District, Women 18 and Older, Virginia, 2004 & 2005



Note. Figure created using data from: Virginia Department of Health, 2004–2005; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted. Females ages 18 and older, with an intact cervix, were asked if they had a Pap test within the past three years.

Prostate cancer screening rates were lowest in rural areas (Virginia Comprehensive Cancer Control Project, 2007). PSA screening rates vary by health district (see Figure 33).

Figure 33. PSA Test by Health District, Men 40 and Older, Virginia, 2004 & 2005



Note. Figure created using data from: Virginia Department of Health, 2004 and 2005; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted. Males ages 40 and older were asked if they had a PSA test within the past two years.

Colon cancer is considered to be one of the most curable cancers when caught early. Screening for colon cancer has been shown to be highly effective. Populations with lower rates of colon cancer screening are more likely to be ages 50 to 59, less educated, low income, uninsured, and residents in a rural area. Minority populations tend to have lower rates of colon cancer screening, specifically, colonoscopy or sigmoidoscopy. Colon cancer screening rates vary by health districts (see Figure 34).

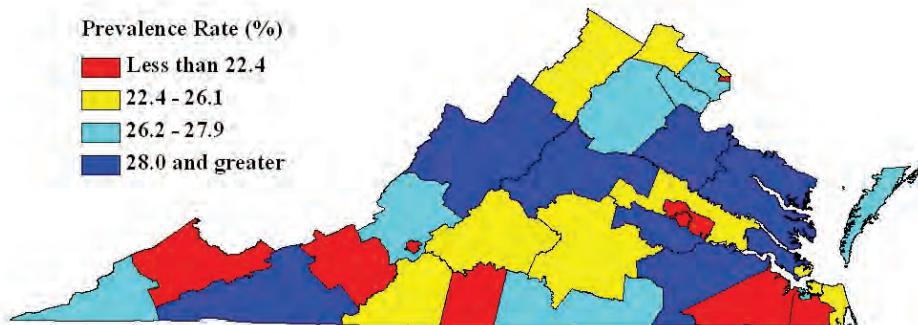
Figure 34. Colon Endoscopy by Health District, Adults 50 and Older, Virginia, 2004 & 2005



Note. Figure created using data from Virginia Department of Health, 2004 and 2005; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted. Adults ages 50 and older were asked if they ever had a colonoscopy or sigmoidoscopy.

Rates of FOBT were lowest among uninsured adults and lower among individuals ages 50 to 59 years. Although the FOBT is a less expensive test compared with colonoscopy, rates of FOBT screening were lower in some rural areas compared to urban and suburban areas. FOBT rates vary by health district (see Figure 35).

Figure 35. Fecal Occult Blood Test by Health District, Adults 40 and Older, Virginia, 2004 & 2005



Note. Figure created using data from: Virginia Department of Health, 2004 and 2005; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted. Adults ages 50 and older were asked if they had a FOBT within the past two years.

Cancer and Risk Factors in Virginia



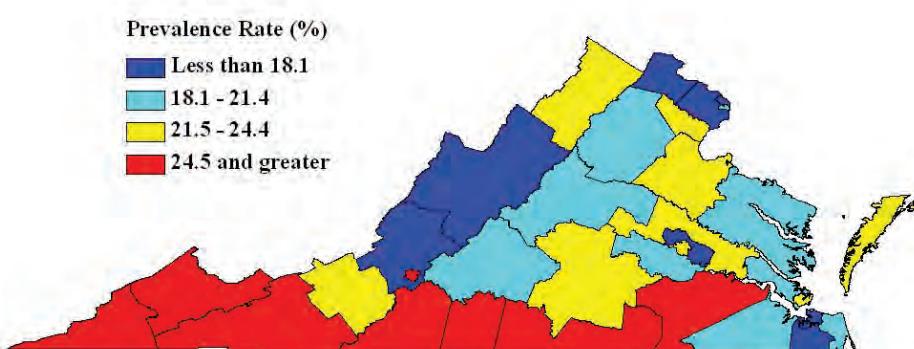
Adult Tobacco Use

In Virginia, it is estimated that over 4,100 people will die each year from cancer related to the use of tobacco (Ries et al., 2004; Centers for Disease Control and Prevention, 2006a, 2006b). Tobacco use is the leading cause of preventable death in the United States (Centers for Disease Control and Prevention, 2005). The NCI has estimated that over 30 percent (30%) of cancers are linked to the use of tobacco products (Ries et al., 2004). Cigarette smoking accounts for 87 percent (87%) of all lung cancer deaths in the United States. (National Cancer Institute, 2004b).

According to findings from the 2007 BRFSS, about one-in-five (18.5%)—or more than 1.1 million—adults in Virginia are current cigarette smokers (Virginia Comprehensive Cancer Control Project, 2007). State survey findings indicate that the following groups in Virginia are more likely to be cigarette smokers: men, adults under age 45, and adults with low household incomes and less education (Virginia Department of Health, Virginia Cancer Registry, 2006). In the United States, adults with a disability are 50 percent (50%) more likely to be smokers than those without a disability (Centers for Disease Control and Prevention, Office of Media Relations, 2007).

Certain areas of Virginia (e.g., the south and the west) have much higher smoking rates (see Figure 36). Rates ranged from 12.3 percent (12.3%) in Fairfax Health District to 31.3 percent (31.3%) in Crater Health District (Virginia Comprehensive Cancer Control Project, 2007).

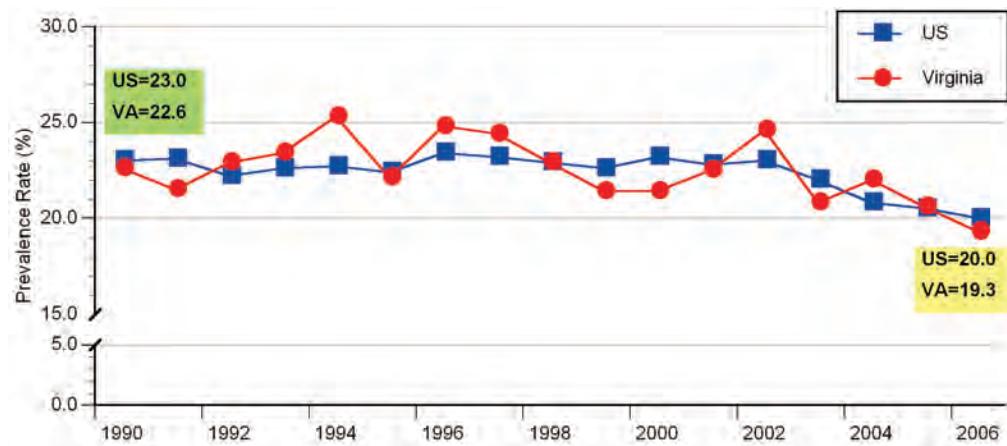
Figure 36. Cigarette Smoking Prevalence by Health District, Virginia, 2004–2006



Note. Figure created using data from: Virginia Department of Health, 2004–2006; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted.

Rates of cigarette smoking have been declining in both the United States and Virginia (see Figure 37), less so for women (Centers for Disease Control and Prevention, 2007b).

Figure 37. Cigarette Smoking Prevalence in the United States and Virginia, 1990–2006



Note. Figure created using data from: Centers for Disease Control and Prevention, 2007b. Percentages are population-weighted.

About three percent (3%) of persons 26 years of age or older currently use smokeless tobacco products (e.g., chew, snuff, dip) (Substance Abuse and Mental Health Services Administration, 2006). Fourteen percent (14%) of male high school students were currently using chewing tobacco, snuff, or dip in 2005 (Eaton et al., 2006).

Tobacco Use by Youth

According to a 2005 Virginia Youth Tobacco Survey (Virginia Tobacco Settlement Foundation, 2006):

- 49 percent (49%) of Virginia's high school students (grades 9–12) and 23 percent (23%) of middle-school students (grades 6–8) have tried cigarettes
- Approximately one in five (22%) high school students and 8 percent (8%) of middle-school students say that they currently smoke. (Being a current smoker is defined as smoking on one or more days in the past month.)
- Approximately two-thirds (63%) of high school students and 40 percent (40%) of middle-school students have not tried smoking and are not open to using tobacco, indicating that the middle-school student population may be a prime target group to prevent their starting to use tobacco products.
- Approximately one-third (37%) of high school students and 43 percent (43%) of middle school students report that they want to quit.

Secondhand Smoke

In addition to smokers and other tobacco users, nonsmokers who are exposed to secondhand smoke are at risk for adverse health effects. Exposure to secondhand smoke increases your risk of developing lung cancer by up to 30 percent (30%) (U.S. Department of Health and Human Services, 2006).

Based on findings from the 2006 Virginia BRFSS (Virginia Department of Health, Tobacco Use Control Project, 2008):

- 47 percent (47%) of smokers who have children living with them allow smoking to occur in their home.
- Almost 20 percent (20%) of employed adults are not protected by smoke-free policies in the workplace.
- Approximately two-thirds (67.4%) of Virginians said that smoking should not be allowed at all in restaurants.

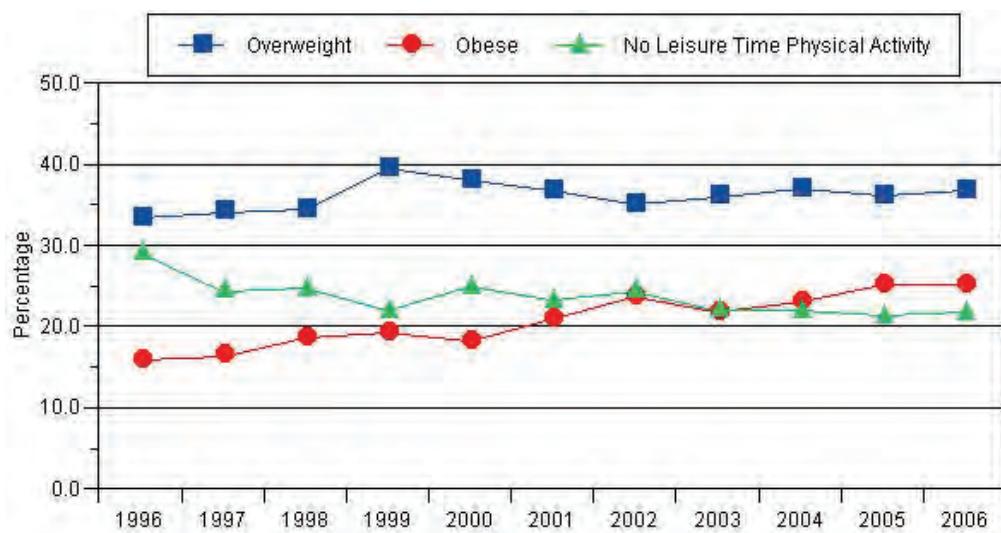
Nutrition, Physical Activity, and Obesity

Second to tobacco use as a cause of preventable death, poor diet, lack of physical activity, and obesity account for about 30 percent (30%) of cancer deaths in the United States (American Institute for Cancer Research, 2007). According to state health behavior findings (Centers for Disease Control and Prevention, 2007a):

- 25 percent (25.3%) of adults in Virginia are considered obese, and 37 percent (36.6%) are overweight based on height and weight measures.
- 22 percent (21.6 %) of adults are inactive — that is, they have not participated in any exercise or physical activity in the past month.
- 74 percent (73.7%) eat less than the recommended five servings of fruits and vegetables a day.

Obesity rates have risen sharply in Virginia. In the 1990 BRFSS, just under 10 percent (10%) of adult Virginians were obese and 32.2 percent (32.2%) were considered overweight—both numbers were lower than the U.S. rates of 11.6 percent (11.6%) and 33.1 percent (33.1%), respectively. By 2002, Virginia surpassed the national rate for obesity (22.1%), with a rate of 23.7 percent (23.7%). Between 1996 and 2006, the rate of obesity increased, while the lack of physical activity decreased in Virginia (see Figure 38).

Figure 38. Overweight, Obesity, and No Leisure-Time Physical Activity, Virginia, 1996–2006

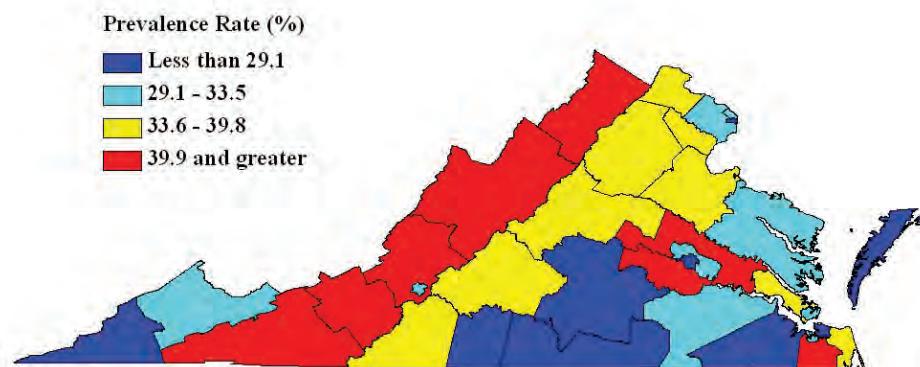


Note. Figure created using data from: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted.

Sun Exposure and Cancer

Forty-three percent (42.9%) of white adult Virginians report experiencing sunburn in the past 12 months. Men, non-Hispanic whites, and younger adults are more likely to report having recent sunburn (Centers for Disease Control and Prevention, 2007c). Sunburn, specifically, excessive sun exposure, is related to affluence (people at higher income levels, who have more years of education, and who have health insurance) (Saraiya, Hall, and Uhler, 2002). Rates of reporting sunburn are higher in the western areas of the Commonwealth (see Figure 39). In 2004, 43 percent (42.9%) of white respondents in Virginia 18 years of age and older reported having had at least one sunburn during the preceding year (Centers for Disease Control and Prevention, 2007c).

Figure 39. Sunburn in the Past 12 Months by Health District, Virginia, 2004



Note. Figure created using data from: Virginia Department of Health, 2004; Virginia Behavioral Risk Factor Surveillance System, 2007. Percentages are population-weighted.

Goals, Objectives and Strategies

The following sections include measurable goals and objectives for Prevention, Early Detection, Treatment, Survivorship and Palliative Care, Surveillance, and Health Equity and Equality. Included under each section are baseline data (when available), targets, data sources, and strategies as well as recommended actions for achieving the goals and objectives of this plan. The goals, objectives, and strategies stated in this plan will be the focus of the CPAC and statewide partners for the next five years.



Prevention

Cancer prevention includes those actions taken by individuals and communities to promote healthy lifestyles through changes in behaviors, policies, and environments. Cancer prevention efforts focus on reducing the number of people each year who get cancer and have a decreased quality of life due to cancer. Cancer prevention efforts can also lead to a reduction in deaths associated with cancer. Cancer prevention efforts may include reviewing and researching information related to reducing cancer risks among individuals and populations throughout Virginia.

The NCI (2004b) has stated, “One of the hopeful messages from cancer research is that most of the cases of cancer are linked to environmental causes and, in principle, can be prevented.” Cancer prevention efforts include supporting the use of proven strategies and exploring new strategies for preventing certain cancers.

Why is Prevention Important?

Studies have shown that many cancer cases are preventable and that lifestyle factors can impact cancer risk. According to the ACS (2008), cancers that are preventable through prevention and early detection (e.g., breast, prostate, colon, lung) will account for half of all new cancers diagnosed in the United States in 2008. Cancers that can be detected early through screening have a five-year relative survival rate of 85 percent (85%).

Current recommendations include:

- avoiding cancer-causing substances
 - exposure to tobacco smoke
 - tobacco use
 - ultraviolet radiation
- pursuing lifestyle practices that modify cancer-causing risk factors
 - increase physical activity
 - decrease physical inactivity
 - eat a healthy diet
 - maintain a healthy weight
 - limit alcohol use
 - utilize safer sex practices
 - avoid sun exposure

- participating in some medical interventions that address precancerous changes
 - vaccinations
- preventive screenings and self-examination
 - colonoscopy
 - breast self-examination
 - mammography
 - testicular self-examination
 - prostate examination—digital rectal examination (DRE) and PSA test.

Many of these cancer prevention strategies not only reduce the risk of cancer but also significantly reduce the risk of other chronic diseases. The most consistent connection between behavior and cancer is the strong relationship between tobacco use and many different types of cancer. Cigarette smoking is responsible for about one-in-five deaths annually, or about 438,000 deaths per year (Centers for Disease Control and Prevention, 2007b). Furthermore, lung cancer accounted for 28 percent (28.3%) of those annual cigarette-smoking deaths per year.

Further support for this connection between behavior and cancer comes from the fact that lung cancer death rates in the United States have mirrored smoking patterns. Increases in smoking have been followed by dramatic increases in lung cancer death rates. More recently, decreases in smoking have been followed by decreases in lung cancer death rates (American Cancer Society, 2008).

Other cancer risk factors that can be affected by individual behaviors and life choices include alcohol consumption (associated with increased risk of oral, esophageal, breast, and other cancers), physical inactivity (associated with increased risk of colon, breast, and possibly other cancers), and obesity (associated with colon, breast, endometrial, and possibly other cancers). Overweight or obesity, physical inactivity, and poor nutrition account for a third of all cancer deaths in 2007 (American Institute for Cancer research, 2007).

Other lifestyle and environmental factors known to affect cancer risk include certain sexual and reproductive practices, the use of hormones, exposure to radon gas and ultraviolet radiation, certain occupational and chemical exposures, and infectious agents. Viruses like human papilloma virus (HPV), which is a primary cause of some cervical cancers, can be prevented through behavioral change and/or vaccination. Screening can prevent certain cancers (e.g., cervical cancer, colon cancer) from developing by having precancerous lesions or growths discovered and removed before they become cancerous. Excess sun exposure, which may lead to skin cancer, can be reduced by using sun-safety products (e.g., sunscreen with a sun protection factor [SPF] of 30+) and other protective measures (e.g., wearing protective covering) (National Cancer Institute, 2007).

The fact that prevention can reduce both the human and economic toll of cancer on all Virginians makes it an important priority. Cancer prevention includes strategies for eliminating and reducing the risk of developing cancer as well as minimizing its effects. To be effective, prevention efforts must be complete, comprehensive, sustainable, community-specific, and culturally and linguistically appropriate.

To address these prevention issues and needs, the VCP has identified the following Prevention goals, objectives, and strategies.

Goal 1: All Virginians will have access to up-to-date information on cancer prevention and opportunities to reduce their risk of developing cancer.

Objective 1: By 2012, pass a Comprehensive Clean Indoor Air Act that enhances the 1990 act and that provides funding for effective enforcement.

Baseline: 1990 Virginia Clean Indoor Air Act

Target: Comprehensive Clean Indoor Air Act that eliminates smoking in most public indoor buildings, including workplaces, restaurants, and bars

Information Sources:

- Code of Virginia (<http://leg1.state.va.us>)
- BRFSS (<http://www.cdc.gov/brfss/>) (<http://www.vahealth.org/brfss/questionnaires.htm>)
- Virginia Quitline data
 - Virginia tobacco Quitline (1-800-QUIT NOW [1-800-784-8669])
 - Consumer data (<http://www.vahealth.org/cdpc/TUCP/QuitNow.htm>)
- Clean indoor air laws and regulations from other states

Strategies:

1. Review current Virginia Clean Indoor Air Act.
2. Obtain copies of clean indoor air legislation from other states with similar demographics to Virginia.
3. Identify and work with clean indoor air partner organizations and legislative staff to craft a new clean indoor air bill.
4. Identify state legislators most likely to introduce and/or support the bill.
5. Develop a fact(s) sheet outlining:
 - The health risks of indoor air pollution
 - A business and economic case for clean indoor air
 - The burden of cancer relative to tobacco use.
6. Meet with legislators of the General Assembly to inform them of the need for and to encourage passage of a Comprehensive Clean Indoor Air Act.
7. Network with CPAC individual and organizational partners to initiate a letter-writing, telephone, and/or e-mail campaign targeted to select legislators.

Objective 2: Encourage public and private payers to promote cancer prevention to their covered/insured populations

Baseline: Data not available

Target: To be determined

Information Sources:

- Health Plan Employer Data and Information Set (HEDIS) (<http://www.ncqa.org>)
- Health Information National Trends Survey (HINTS) (<http://hints.cancer.gov/>)
- Virginia Association of Health Plans (<http://www.vahp.org>)
- C-Change (<http://www.c-changetogether.org/pubs/pubs/MillimanReport.pdf>)
- CPAC website (<http://www.cpacvirginia.org>)
- Virginia Business Coalition on Health (<http://www.myvbch.org>)

Strategies:

1. Identify the number of public and private payers and managed care organizations that offer on-site health promotion and wellness programs that relate to cancer prevention.
2. Identify the number of public and private payers and managed care organizations that currently support employee incentives for healthy lifestyles, including reduced-cost premiums, fitness club memberships, and smoking cessation programs.
3. Develop a Best Practices Award—top 100. Identify the number of public and private payers and managed care organizations that implement cancer prevention efforts.
4. Educate public and private payers and managed care organizations on the economic burden of cancer and the benefit of health promotion to businesses.
5. Use the Milliman Report to develop talking points for working with employers and insurance companies (Pyenson and Zenner, 2005).
6. Research cost-benefit studies that analyze the impact of health promotion programs/incentives for employees.
7. Coordinate the development of a fact sheet outlining the burden of cancer and the cost-benefits of health promotion to employers.
8. Seek collaboration between insurance providers and public and private payers and managed care organizations to explore models of discounted rates for offering wellness prevention programs.
9. Contact the Virginia Business Coalition on Health and identify specific opportunities to collaborate on cancer prevention efforts.
10. Maintain and distribute a resource guide of cancer screening and education services available through local health departments, primary care associations, CHCs, and on the CPAC website.

Objective 3: By 2012, reduce tobacco use among adolescents.

Baseline: Virginia Youth Tobacco Survey—2005 (students in grades 9–12).

Target: Healthy People 2010 (most currently available).

	Baseline (2005)	Target (2012)
3a. Does student currently use any tobacco product?	27%	21%
3b. Does student currently smoke cigarettes (1+ days during past 30)?*	21.7%	16%
3c. Does student currently use chewing tobacco, snuff, or dip (1+ days during past 30)?*	7.4%	1%
3d. Does student currently smoke cigars, cigarillos, or little cigars (1+ days during past 30)?*	10.9%	8%

* Past monthly use refers to “the proportion of students who have used tobacco (cigarettes, spit tobacco, cigars) on at least one or more days in the past 30 days.”

Information Sources:

- Virginia Youth Tobacco Survey (<http://www.vtsf.org/>)
- Youth Risk Behavior Surveillance System (YRBSS) (<http://www.cdc.gov/YRBSS/>), to be implemented in Virginia 2009
- Virginia Tobacco Settlement Foundation (<http://www.vtsf.org/>)
- American Lung Association—Virginia (<http://www.kintera.org/site/civKTL8MWIwG/b.1162245/k.BE12/Home.htm>)

Strategies:

1. Partner with the Virginia Department of Education (VDOE) and the VDH to define and implement a coordinated school health program to reduce tobacco use.
2. Facilitate a meeting between VDOE and VDH to present information and need for a coordinated school health program and gain support for the YRBSS.
3. Develop a fact sheet about the benefits of YRBSS to share with community groups, parent teacher associations (PTAs), etc.
4. Meet with superintendents of individual school districts in Virginia to gain support for statewide implementation of YRBSS.
5. Partner with the VDH to identify potential sources of funding and opportunities for collaboration to reduce tobacco use.
6. Develop a framework to implement an electronic method for administering the YRBSS.
7. Develop and strengthen partnerships between public health, health and physical education, and the private sector to reduce tobacco use in youth.
8. Identify programs and mass media campaigns targeting youth to reduce tobacco use.
9. Support an increase in tobacco taxes with revenue going to support youth tobacco control and prevention programs.
10. In collaboration with the American Lung Association, coordinate activities of the Great American Smokeout with Virginia public and private schools.
11. Support the administration of the YRBSS to high school students by September 2009.

Objective 4: By 2012, prevent and reduce tobacco use among adults (18 years and older), especially among women of reproductive age.

Baseline and Target: The baseline for cigarette smoking was based on findings from the 2006 BRFSS. Cigarette smoking refers to the proportion of adults who have smoked 100 or more cigarettes in a lifetime and now smoke either every day or some days. Smokeless tobacco (or spit tobacco), cigars, and other tobacco products (e.g., bidis, kreteks) refer to current use either every day or some days. The baselines for each of these were taken from the BRFSS in varying years. All targets are taken from Healthy People 2010.

	Baseline	Target (2012)
4a. Cigarette smoking	19.3 % (2006)	12%
4b. Spit tobacco	3.4% (2005)	0.4%
4c. Cigars	5.3% (2001)	1.2%
4d. Other tobacco products (bidis only)	0.3% (2001)	TBD

Information Sources:

- BRFSS (<http://www.cdc.gov/brfss/>) (<http://www.vahealth.org/brfss/questionnaires.htm>)
 - Current Population Survey—Tobacco Use Supplement (<http://www.census.gov/cps/>)
 - (http://148.129.75.208/search?q=tobacco+use+supplement&entqr=0&ud=1&output=xml_no_dtd&oe=UTF8&ie=UTF8&client=default_frontend&proxystylesheet=default_frontend&site=census&btnG.x=10&btnG.y=8)
- Virginia tobacco Quitline (1-800-QUIT NOW [1-800-784-8669])
 - Consumer data (<http://www.vahealth.org/cdpc/TUCP/QuitNow.htm>)
- Culturally and Linguistically Appropriate Services (CLAS) (<http://www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=15>) (www.vdh.virginia.gov/ohpp/clasact/documents/clasact/general/CommunityGuidebook.pdf)
- American Lung Association—Virginia Chapter (<http://www.kintera.org/site/c.ivKTL8MWIwG/b.1162245/k.BE12/Home.htm>)

Strategies:

1. Support the statewide distribution of culturally and linguistically appropriate health promotion materials and advertisements designed to prevent the initiation of tobacco use and to reduce tobacco use.
2. Identify culturally and linguistically appropriate health education materials targeting smoking cessation for women of childbearing age for distribution to health care professionals, including obstetrical and gynecological (OB/GYN) physicians.
3. Support training, information sharing, and research sharing for practitioners on the importance of smoking cessation programs.
4. Identify effective, culturally and linguistically appropriate anti-tobacco-use messages through a variety of media (e.g., newspapers, radio, TV, Internet, billboards).
5. Support increased tobacco taxes to be used for tobacco-use prevention efforts.
6. Identify populations and regions that have the highest rates of tobacco use in order to efficiently and effectively target resources.
7. Collect and analyze Quitline data to identify and target community-specific activities.
8. Secure funding to expand and enhance the Quitline.

Objective 5: Increase the proportion of adults 18 years and older who use at least one of the following protective measures (wear sunscreen with an SPF of 30+, stay in the shade, wear sun-protective clothing when exposed to sunlight) that may reduce the risk of skin cancer by 2012.

Baseline: 49 percent (49%), (National Health Interview Survey [NHIS], 1998)

Target: 75 percent (75%), (Healthy People 2010)

Information Sources:

- National Health Interview Survey (NHIS) (<http://www.cdc.gov/nchs/about/major/nhis/hisdesc.htm>)
- Culturally and Linguistically Appropriate Services (CLAS) (www.vdh.virginia.gov/ohpp/clasact/documents/clasact/general/CommunityGuidebook.pdf)
- Virginia Department of Conservation and Recreation (http://www.dcr.virginia.gov/state_parks/index.shtml)

Strategies:

1. Distribute culturally and linguistically appropriate educational materials on skin cancer.
2. Facilitate focus groups of teens to develop youth-focused messages and programs on skin cancer prevention.
3. Provide information on sun safety to lifeguards, aquatic instructors, and outdoor recreation staff.
4. Collaborate with state and local parks and recreation officials to provide more shaded areas, including the planting of more trees, at recreation sites.
5. Work with local retail merchant associations and chambers of commerce to implement point-of-purchase prompts about skin-protective behaviors.
6. Develop and provide sun-safety lessons, interactive activities, and incentives for parents and children on skin cancer prevention.
7. Provide free or low-cost sunscreens (at least SPF 15 or higher) in state parks.
8. Increase free or low-cost skin cancer screening.
9. Recruit a celebrity spokesperson (local, regional, national) to promote the use of skin cancer prevention behaviors.
10. Review standards and regulations from other states and make recommendations for regulating tanning salons in Virginia.

Objective 6: Increase the level of reported physical activity among adults (30 minutes of moderate activity five times per week, or 20 minutes of vigorous activity three times per week).

Baseline: 50 percent (49.5%) (Virginia BRFSS, 2007)

Target: Increase to 59 percent (59 %)

Information Source:

- Virginia BRFSS (<http://www.vahealth.org/brfss/questionnaires.htm>)

Strategies:

1. Determine the number of worksites offering employer-sponsored physical activity and fitness programs. (National Worksite Health Promotion Survey: www.wctc.edu/waukesha/whpsurvey2006.pdf)
2. Inform health care providers and organizations about the importance of providing information on regular physical activity for health care consumers.
3. Develop and implement a framework to support community-specific physical activity campaigns.
4. Promote physical activity role-modeling behaviors in parents and other adults.
5. Identify and provide information about mixed-use zones, with homes situated within walking and biking distance of walker-friendly commercial, business, and community facilities.
6. Engage fitness-related organizations within the community to give discounted memberships to qualifying individuals and organizations.

Objective 7: By 2012, increase the proportion of adolescents (students in grades 9–12) who engage in moderate physical activity for at least 30 minutes on five or more of the previous seven days.

Baseline: Virginia data not available, YRBSS available after 2009

Target: Healthy People 2010 target, 30 percent (30%)

Information Source:

- YRBSS (Virginia implementation by September 2009, pending funding) (<http://www.cdc.gov/YRBSS>)

Strategies:

1. Evaluate results of local wellness policies of school districts documenting 150 minutes of physical activity per student per week.
2. Encourage the implementation and evaluation of local wellness policies of school districts.
3. Educate health care providers and organizations to counsel students on the benefits of regular physical activity.
4. Develop and implement a framework to support community-specific physical activity campaigns.
5. Identify existing mixed-use (residential and commercial) zones with homes situated within walking- and biking-distance of commercial and public-use facilities.
6. Promote development of communities in mixed-use zones.
7. Promote healthy families by encouraging age-appropriate physical fitness activities.
8. Promote building of safe sidewalks and bike paths between community schools and residential areas.

Objective 8: By 2012, increase the proportion of Virginia schools that require daily physical education for all students.

Baseline: Data not available

Target: To be determined

Information Sources:

- YRBSS (Virginia implementation by September 2009, pending funding) (<http://www.cdc.gov/YRBSS>)
- Virginia General Assembly (<http://leg1.state.va.us>)

Strategies:

1. Monitor implementation of physical fitness requirements by legislative action of the Virginia General Assembly (<http://leg1.state.va.us>).
2. Determine the proportion of Virginia schools that require daily physical education.
3. Support school-based programs that promote regular physical activity for students, staff, and the community.
4. Engage parent teacher associations (PTAs) in local school division in efforts to increase physical education programs.

Objective 9: Reduce the percentage of people who are overweight or obese by 2012.

Baseline and Target: See below

	Baseline (2007)	Target (2012)
9a. Adults—Overweight	36.6%	25%
9b. Adults—Obese	25.3%	15%
9c. Adolescents—Overweight or obese	TBD	5%

Information Sources:

- Virginia BRFSS (<http://www.vahealth.org/brfss/questionnaires.htm>) (<http://www.cdc.gov/brfss/>)
- Virginia YRBSS (www.cdc.gov/YRBSS/) (implementation by September 2009, pending funding)
- Virginia School Health Data (<http://www.doe.virginia.gov/VDOE/suptsmemos/2008>)

Strategies:

1. Partner with community coalitions or groups working to increase physical activity, decrease obesity, and encourage healthy diets and good nutrition.
2. Develop and conduct a social marketing campaign to promote healthy weight management.
3. Identify and replicate community and evidence-based programs for reducing the numbers of overweight and obese individuals.
4. Increase implementation of worksite programs that promote healthy weight management.

Objective 10: By 2012, increase the proportion of adolescent girls (ages 9–17) and young adult women (ages 18–26) who receive the HPV vaccination.

Baseline: Data not available

Target: To be determined

Information Sources:

- VDH (<http://www.vdh.state.va.us/epidemiology/immunization>)
- Code of Virginia (<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+32.1-46>)

Strategies:

1. Promote abstinence and other safer sex strategies to reduce the risk of developing sexually-transmitted diseases, including HPV, among adolescents and young adults.
2. Promote HPV vaccination to parents of adolescent girls and to young adult women.
3. Educate health care providers and the target population of parents, adolescent girls, and young adult women about HPV vaccination and cervical cancer.
4. Support public and private insurance coverage for HPV vaccinations.
5. Support public funding for the HPV vaccination program.

Early Detection

Early detection means finding a cancer when there are no symptoms or signs of a problem. For many types of cancer, it is easier to treat and cure the cancer if it is found early. Decreasing the number of late-stage cancers is a primary goal of early detection efforts. Depending on risk factors such as age and family history, health professionals may recommend screening for certain types of cancer. Screening means looking for cancer before it causes symptoms. Some doctors recommend that people who are at high risk or have a family history of cancer should be regularly screened. The recommendations vary for different cancers.

Why is Early Detection Important?

According to the ACS (2008), the five-year relative survival rate for cancers that are detectable through screening is 85 percent (85%). Regular cancer screening examinations by a health professional can find cancer at the earliest stage, when treatment can be most effective and the chances of cure and survival are greatest. Screening can detect breast, cervical, colon, oral cavity, prostate, and skin cancers. Some cancers (e.g., cervical, colon) can be found and treated in a precancerous stage, before cancer develops. Other cancers, such as oral or skin cancer, may be found by changes in the appearance or the feel of an area of the body. For most of these cancers, it has been demonstrated that screening saves lives. However, there are disparities in screening rates by income. For example, for women (age 50 or older) who reported a household income of less than \$20,000 per year, only 57 percent (56.6%) reported having had a mammogram in the last year versus 61 percent (61.4%) overall. For men (age 50 or older), only 38 percent (37.7%) of those who reported an income of less than \$20,000 reported having a PSA in the last year versus 43 percent (43.1%) overall.

The VDH's Every Woman's Life (EWL) program, part of a multistate, CDC-funded initiative, screens medically underserved women ages 50 to 64 years for breast and cervical cancer. It has been a successful demonstration of the impact of screening and early detection on reducing the burden of breast and cervical cancer nationwide and in Virginia. Since 1998, over 20,000 Virginia women, who otherwise would not have been screened, have enrolled in the program, and 637 cases of breast cancer, 25 cervical cancers, and 256 cervical precancers have been found. In 2006, with state funding, the program expanded to include younger women ages 18 to 49 symptomatic for breast and cervical cancer. Without the benefit of early detection, many of these women may have had undesirable cancer outcomes.

Since 2000, Virginia has required that all private and public insurance plans include coverage for colorectal cancer screening. In 2006, the EWL program started a demonstration project to screen women ages 50 and older enrolled in the program for colorectal cancer. Since July 1, 2006, the program has screened 404 at-risk women, performed 25 colonoscopies, and diagnosed one precancerous condition. As of 2008, Virginia does not have a state program for screening men for prostate cancer. However, since 1998, Virginia has required that all state health plans and Medicaid cover prostate cancer screening for men 50 and older.

Based on incidence and mortality data and related resources, the Early Detection section focuses on four cancers—breast, cervical, colon, and prostate. The following objectives address the identification and ongoing assessment of available cancer screening services, increased public and provider awareness and education regarding screening guidelines, and advocacy for more screening resources, especially in HPSAs.

Goal 1: Virginians are diagnosed with cancer at an early stage through appropriate screening.

Objective 1: By 2012, increase public awareness of the availability of screening services for breast, cervical, colon, and prostate cancers.

Baseline: Data not available

Target: Up-to-date inventory of cancer screening and early detection services

Information Sources:

- Clinical practice associations (e.g., American College of Gastroenterologists, American Academy of Family Practice)
- Virginia Community Healthcare Association (<http://www.vacommunityhealth.org>)
- EWL program (<http://www.vahealth.org/breastcancer/>)
- Local health departments (<http://www.vdh.virginia.gov/lhd/>)
- Virginia Prostate Cancer Coalition's annual survey of prostate screening (<http://www.vapcacoalition.org>)
- VDH (<http://www.vdh.virginia.gov>)

Strategies

1. Produce and maintain an up-to-date inventory of cancer screening and early detection services by type of cancer, location, cost, and eligibility criteria using the CPAC prevention survey as a model.
2. Post the inventory on the CPAC website, with six-month maintenance provided by CPAC administrative staff.
3. Review utilization gaps and unmet need for screening and early detection services and make recommendations to improve capacity.
4. Make widely known the availability of the inventory information through multimedia campaigns, including press releases, links to CPAC/VDH, and other CPAC member organization websites.
5. Perform Geographic Information Systems (GIS) modeling as a method of allocating early detection resources in areas of high prevalence for the four cancers.
6. Develop a framework for community participation (e.g., worksites, faith-based communities, clinics, health care providers, hospitals, insurers) in screening and early detection efforts.

Objective 2: By 2012, increase public awareness and knowledge of updated evidence-based recommendations for screening and early detection guidelines.

Baseline: Data not available. Questions regarding public knowledge of current screening guidelines for breast, cervical, colon, and prostate cancers will be added to the 2008–2010 BRFSS to establish a baseline and track progress.

Target: A 10 percent (10%) increase in public knowledge by 2012 as measured by BRFSS

Information Sources:

- Virginia BRFSS (<http://www.cdc.gov/brfss/>) (<http://www.vahealth.org/brfss/questionnaires.htm>)
- Virginia State Corporation Commission—Bureau of Insurance (<http://www.scc.virginia.gov/division/boi/webpages/boimandated.htm>)

Strategies:

1. Publicize laws pertaining to mandated insurance coverage for routine, appropriate cancer screening.
2. Identify and describe public health initiatives pertaining to mandated insurance coverage for cancer screening and early detection at the local and state level.
3. Coordinate local and state campaigns to coincide with national campaigns to increase awareness on specific cancer screening and early detection efforts.
4. Through affiliation with the Virginia Association of Health Plans, encourage enrollees to stay current on cancer screening and early detection tests.
5. Recruit and train volunteers or community health workers/advisors to promote the use of recommended cancer screening and early detection guidelines by the public.
6. Inform state and local policymakers about the health and economic benefits of cancer screening and early detection.
7. Develop a community-driven model to include faith-based communities, companies/employers, provider groups, and others in developing and delivering educational messages encouraging cancer screening and early detection.
8. Encourage CPAC members and member organizations to meet with legislators in the General Assembly and Joint Legislative Audit Review Commission (JLARC) to:
 - Provide information about screening and early detection, and
 - Advocate for universal early detection screening of colorectal cancer and for the expansion of the EWL program to increase colorectal cancer screening as determined by the CPAC Ad Hoc Colorectal Cancer Task Force.

Objective 3: By 2012, increase compliance among health care providers with updated cancer screening recommendations and early detection guidelines.

Baseline: HEDIS

Target: Increase current compliance rate by 10 percent (10%).

Information Sources:

- U.S. Preventive Services Task Force (<http://www.ahrq.gov/clinic/USpstfix.htm>)
- ACS (<http://www.cancer.org>)
- American College of Obstetricians and Gynecologists (<http://www.acog.org>)
- American Gastroenterological Association (<http://www.gastro.org/>)
- American Society of Clinical Oncology (ASCO) (<http://www.asco.org/>)
- Virginia Community Healthcare Association (<http://vacommunityhealth.org>)
- HEDIS (<http://www.ncqa.org>)
- Virginia General Assembly—JLARC (<http://jlarc.state.va.us>)

Strategies:

1. Assess the knowledge gap and training needs of primary care medical personnel in CHCs related to cancer screening recommendations and early detection guidelines.
2. Develop, implement, and evaluate training on cancer screening guidelines as determined by the CHC assessment survey.
3. Disseminate information on cancer screening guidelines to health care professionals (e.g., family practitioners, OB-GYNs, internists, nurse practitioners) performing or recommending cancer screening to their patients.
4. Develop a survey tool for assessing the knowledge gaps and training needs of primary medical personnel in non-CHC settings.
5. Promote the incorporation of risk-assessment tools in screening and early detection to help providers and patients choose the most appropriate screening tests.
6. Develop a patient-centered model that emphasizes communication between physicians and patients in determining appropriate screening and early detection tests.
7. Assess compliance with cancer screening recommendations via HEDIS measurements.
8. Develop a plan for disseminating best practices to health providers, especially those serving at-risk and underserved populations, for those cancers where there are no national screening protocols (e.g., ovarian, melanoma).

Objective 4: By 2012, increase cancer screening compliance rates with an emphasis on medically underserved and low socioeconomic populations.

Baseline: Virginia BRFSS

Target: See table below.

Screening Test	2006 Baseline (in Percent)	2012 Target (in Percent)
4a. Mammogram in last two years (age 40+)	76.5	80.3
4b. Mammogram in last two years (age 50+)	81.0	85.1
4c. Pap smear in last three years (age 18+)	85.6	90.0
4d. *Pap smear in last two years (age 40+)	72.9	80.2
4e. FOBT in last two years (age 50+)	26.3	27.6
4f. Sigmoidoscopy/colonoscopy ever (age 50+)	65.3	68.6
4g. PSA in last two years (age 40+)	53.5	56.2
4h. *DRE in last year (age 40+)	46.3	48.6
4i. *Use at least one sun-protection measure (age 18+)	NA**	TBD***

Information Sources:

- Virginia BRFSS (<http://www.cdc.gov/brfss/>) (<http://www.vahealth.org/brfss/questionnaires.htm>)
- Virginia CPAC (<http://www.virginiacpac.org>)

Strategies:

1. Identify and implement culturally competent intervention strategies for increasing screening rates (e.g., utilize lay outreach workers and advocacy groups).
2. Identify key community leaders and community-based organizations (e.g., faith-based communities, worksites, clinics, and homeless shelters), especially in medically underserved and low-socioeconomic populations, who will endorse and promote cancer screening and early detection.
3. Develop sources of free or low-cost cancer screening through public-private partnerships, with emphasis on medically underserved and low-socioeconomic populations.
4. Provide letters of support from the CPAC to community groups seeking private funding for early detection activities.
5. Advocate for universal early detection screening of colorectal cancer and for the expansion of the EWL program to increase colorectal cancer screening, as determined by the CPAC Ad Hoc Colorectal Cancer Task Force.
6. Develop a community-driven model to include faith-based communities, companies/employers, provider groups, and others in developing and delivering educational messages encouraging cancer screening and early detection.
7. Develop a business case to highlight costs and benefits of cancer early detection and screening that can be distributed to CEOs, health insurers, legislators, and decision-makers who oversee benefit packages for large groups.

Cancer Treatment

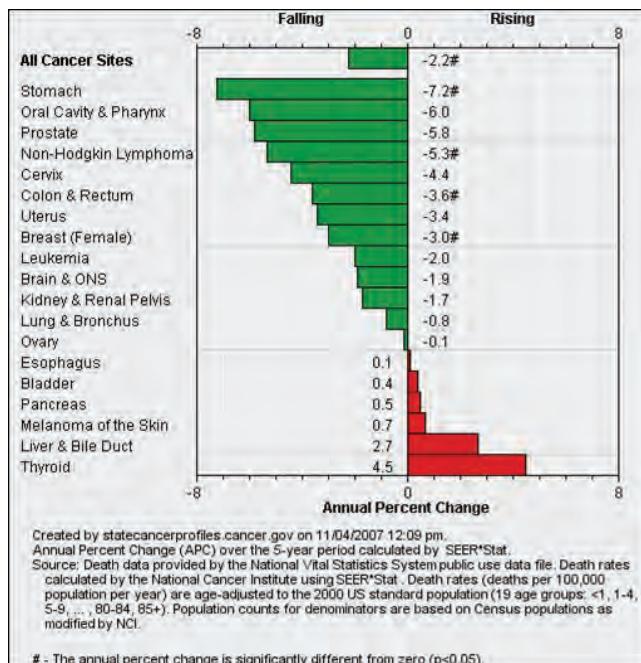
In 2008, it is estimated that 35,590 Virginians will be diagnosed with cancer. Unfortunately, 13,990 of them will die (American Cancer Society, 2008). The availability, accessibility, and affordability of high-quality care and treatment are critical for Virginians with cancer. The treatment of cancer is best provided by a multidisciplinary team of qualified health professionals working together in collaboration with the patient and caregivers. Evidence-based national guidelines currently exist for the treatment of cancer, established by the National Comprehensive Cancer Network (NCCN) (<http://www.nccn.org>), the American Society for Clinical Oncology, (<http://www.asco.org>), and others.

The goal of cancer treatment is to cure the person with cancer or control the progression of the disease while maintaining the highest quality of life. Cancers behave differently and respond to different treatments. Treatment options depend on the type and stage of cancer and on the age, health status, and personal preferences of the individual. Cancer may be treated with surgery, radiation, chemotherapy, hormones, immunotherapy, or multiple integrated approaches. Quality care is based on national standards, including evidence-based guidelines and access to the results of clinical trials.

The individual's general overall health, dietary support, and emotional health have a significant impact on the patient's treatment and survival. Increasingly, cancer is seen as a chronic condition that includes follow-up care and self-management. Cancer treatment involves complicated decisions. Patients and families need individually appropriate information and support in order to take charge of their health and make informed decisions, both in the short and long terms.

Cancer care and treatment are improving in Virginia. The overall mortality is dropping for most cancers, including breast, colon, prostate, and lymphoma (see Figure 40). Better surgical procedures, new chemotherapy drugs, improved radiation therapy, clinical trials, and the increased use of multimodality therapy have increased survival rates. The increased use of affordable, accessible, and available treatments will lead to further reductions in cancer morbidity (illness) and mortality (death). Further integration and coordination of cancer care treatment, support, and programs and the recruitment of appropriately trained health professionals are critical to successfully reducing the cancer burden.

Figure 40. Five-Year Rate Changes, Mortality, All Ages, Both Genders, All Races (Including Hispanics), Virginia, 2000–2004



*2005 BRFSS—Virginia

**NA = Not available

***TBD = To be determined

Access to Quality Care

Institutions. To promote the highest quality of care, the American College of Surgeons Commission on Cancer (CoC) has established hospital-based best practice standards for multidisciplinary care. Of the 80 acute care and critical-access hospitals in Virginia, 42 have cancer centers that are approved by the American College of Surgeons CoC (http://web.facs.org/cpm/CPMAccreditedHospitals_Result.cfm) (http://www.vhi.org/hosp_acute.asp) (see Appendix B). These hospitals are recognized based on the number of cancer patients and other programmatic components. Nationally, approximately 80 percent (80%) of cancer patients are treated at American College of Surgeons CoC-accredited facilities.

Workforce. The growth in demand for services will be driven primarily by the aging of the U.S. population and the growth in the number of cancer survivors. In 2010, the first of 78 million baby boomers will turn 65, an age when some people require more medical care. According to the ASCO Workforce Study, the demand for services provided by oncologists is expected to increase 48 percent (48%) between 2005 and 2020. The recent ASCO study also shed light on trends in the supply of oncologists through the year 2020. As of 2005, there were approximately 13,000 oncologists practicing in the United States. Over half (54 %) of practicing oncologists are 50 years old or older, and by the year 2020 they will be 65 years of age or older. The supply of oncology services is expected to grow at a slower pace (14%) than the demand for them, based on the anticipated retirement rate and practice patterns of oncologists (Erikson et al., 2007).

Strategic planning and development are required to meet the needs of the expanding population of Virginians with cancer, particularly in health HPSAs of Virginia. The report by the Virginia Health Reform Commission released in September 2007 estimated that by 2020 there will be a shortage of approximately 1,500 physicians of all specialties and 22,600 registered nurses. To meet this demand, it is expected

that the supply of registered nurses will have to increase by 60 percent (60%) from what it is today (Health Reform Commission, 2007). It is anticipated that these gaps in the workforce will have a significant impact on cancer care in Virginia over the next five years.

Clinical Trials. Clinical research trials enable patients to have access to innovative and potentially more-effective approaches to prevention, early diagnosis, and the treatment of cancer. Nationally, only 4 percent (4%) of cancer patients currently participate in clinical trials (Michaels, 2006). Minorities and patients in rural areas are particularly underrepresented. In Virginia, access to clinical trials is concentrated around academic medical centers and larger private health care institutions. Strategies need to be developed to encourage participation in clinical trials because many patients are not aware of the benefits of participation.

To address these treatment issues and needs, the VCP has identified the following treatment goals, objectives, and strategies.

Goal 1: Virginians with cancer will have access to appropriate and effective cancer treatment and care.

Objective 1. By 2012, increase the number of hospitals in Virginia that participate in the American College of Surgeons CoC Approval Program.

Baseline: Fifty-two percent (52%) (42/80) of acute and critical access hospitals in Virginia are currently recognized by the American College of Surgeons CoC (2007).

Target: Sixty percent (60%) of acute and critical access hospitals in Virginia will be recognized by the CoC.

Information Sources:

- American College of Surgeons CoC (<http://www.facs.org/cancer/>)
- ACS (<http://www.cancer.org>)
- American College of Surgeons Cancer Liaison Physician Program
- VDH
 - Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)

Strategies:

1. Identify the population of cancer patients receiving and not receiving care in CoC-approved cancer programs.
2. Identify barriers and solutions to participation in the CoC approval program for those hospitals that do not currently participate in the program.
3. In collaboration with the CoC, the ACS, county medical societies, the CoC Cancer Liaison Physician Program, and others, promote the benefits of CoC approval to hospital administrators, patients, health care providers, and the public through various media.

Objective 2. By 2012, increase awareness and utilization by oncology health care providers of evidence-based guidelines for cancer care that have been developed by national organizations.

Baseline: Data not available

Target: To be determined

Information Sources:

- NCCN (<http://www.nccn.org/>)
- Virginia Chapter of the Oncology Nursing Society (ONS) (<http://www.ons.org/>)
- ASCO (<http://www.asco.org/>)
- National Quality Forum (NQF) (<http://www.qualityforum.org>)
- Center for Medicare and Medicaid Services (CMS) (<http://www.cms.hhs.gov>)
- American College of Surgeons CoC
(<http://www.facs.org/cancer/>)
- Physician Quality Reporting Initiative (PQRI) (www.cms.hhs.gov/pqri/)
(<http://www.ama-assn.org/ama/pub/category/17493.html>)

Strategies:

1. Promote the utilization of hospital quality benchmarks, as determined by the NQF, in the areas of breast cancer, colon cancer, and palliative care in 2008.
2. Promote the utilization of physician quality benchmarks as determined by NQF and PQRI in 2008.
3. Using proven strategies, work with public and private health care providers and organizations to promote the use of evidence-based guidelines by providers.
4. Develop and implement professional education on the use of guidelines and their role in pay-for-performance initiatives identified by the NQF, the American College of Surgeons Electronic Quality Improvement Project, and the PQRI.
5. Disseminate culturally and linguistically suitable information regarding evidence-based guidelines for medically underserved, low-socioeconomic, and vulnerable populations, including adolescents and pregnant patients.

Objective 3. By 2012, increase the number of board-certified oncology providers practicing in Virginia, with an emphasis on reaching medically underserved populations.

Baseline: One hundred and ninety-one board-certified medical oncologists (2006), 87 board-certified radiation oncologists (2006), and 558 oncology-certified nurses (OCNs) (2006) (Kirsten Edmiston, personal communication, May 31, 2008)

Target: To be determined

Information Sources:

- Governor's Health Reform Commission, Workforce Workgroup (www.hhr.virginia.gov/Initiatives/HealthReform/index.cfm)
- Association of American Medical Colleges (<http://www.aamc.org/workforce>)
- ASCO workforce study (<http://www.asco.org/ASCO/Practice+Resources/Workforce+Study>)
- American Board of Medical Specialists (http://abms.org/News_and_Events/Media_Newsroom/facts_and_background.aspx)
- Virginia ONS (<http://www.ons.org/>)
- U.S. Department of Health and Human Services, Bureau of Health Professions (<http://bhpr.hrsa.gov/>)

Strategies:

1. In collaboration with other statewide initiatives, assess the current and projected oncology-related professional and allied workforce needs over the next 10 years, particularly HPSAs.
2. Develop a framework to increase training and residency programs that produce oncology-related specialists.
3. Increase awareness among internal medicine, family practice, and OB/GYN practitioners about oncology specialties.
4. Encourage CPAC members and member organizations to inform legislators in the General Assembly and the JLARC about the need for increased numbers of board-certified oncology providers, especially those serving the HPSAs of the state.
5. Inform primary care physicians in HPSAs on the importance of screening, prevention, and early detection and connect them to evidence-based oncology care, treatment, and services.
6. Identify cancer specialists who will provide diagnostic and treatment consultation to primary care physicians in HPSAs.
7. Promote utilization of nonphysician providers (e.g., physician assistants, nurse practitioners) in underserved areas.
8. Support ongoing continuing education programs for nurses and other health care personnel providing oncology-related care.

Objective 4. By 2012, increase access to and utilization of technology-based cancer care information (Internet and telephone) by patients and caregivers to improve informed decision-making.

Baseline: NCI/Cancer Information Service (2,385 calls from Virginia, 2006); ACS (16, 617 calls from Virginia, 2006)

Target: Increase utilization as follows:

Resource	Current	2012 Target
NCI/Cancer Information Service	2,383 calls	4,470 calls
ACS	16,617 calls	25,000 calls

Information Sources:

- VDH (<http://www.vahealth.org/cancerprev>)
- ACS (<http://www.cancer.org>) 1-800-227-2345
- NCI/Cancer Information Services: 1-800-422-6237 (<http://cis.nci.nih.gov>)
- HINTS (<http://hints.cancer.gov>)
- CPAC website (<http://www.cpacvirginia.org>)

Strategies/Action Steps:

1. Develop a framework to promote websites with links to state and national comprehensive resources for cancer patients, health care providers, and the public (e.g., <http://www.hospitalcompare.hhs.gov>).
2. On an annual basis, identify current website utilization of cancer care information by patients and caregivers.
3. Compile a statewide treatment resource database that is also accessible by region or zip code/locality.
4. Provide easily available cancer care information (cancer-site-specific treatment options, benefits, disadvantages, survivorship issues, and other information) that is culturally and linguistically appropriate to target populations.
5. Utilize public and private partnerships to disseminate cancer information.
6. Promote the use of a web server log file analysis program such as Webalizer to monitor and document website utilization.
7. Encourage CPAC members and member organizations to meet with legislators in the General Assembly and the JLARC to:
 - Describe the benefits of e-Health
 - Provide funds for statewide cancer treatment database and web resources.

Goal 2: Virginians with cancer will be able to obtain integrated multidisciplinary evidence-based cancer care.

Objective 1. By 2012, increase the number of health care organizations and private practices that incorporate e-Health* in their daily operations.

Baseline: Five formal telemedicine centers in Virginia, listed below. Eighty organizations including academic medical centers, state and local health care organizations, and health care providers serve as partners to create, use, support, and promote e-Health services.

Target: Increase the number of formal telemedicine centers by one, and increase participant organizations in the Virginia Telehealth Network by 10 percent (10%) per year.

Information Sources:

- VDH (<http://www.vdh.state.us>)
- Virginia Telehealth Network (<http://www.ehealthvirginia.org>)
 - Edward Via Virginia College of Osteopathic Medicine
 - Northern Neck Middle Peninsula Telehealth Consortium
 - Southwest Virginia Community Health Systems
 - University of Virginia Office of Telemedicine
 - Virginia Commonwealth University Health System Clinical Telemedicine
- American Telemedicine Association (<http://www.americantelehealth.org>)
- Virginia Hospital and Healthcare Association (<http://www.vhha.com>)

Strategies:

1. Establish baseline data by surveying hospital and health care organizations to determine e-Health utilization.
2. Collaborate with public and private-sector institutions to catalogue available teleconference and telemedicine network resources throughout Virginia.
3. Engage and develop links between e-Health partners, telemedicine networks, cancer care institutions, and patients and caregivers to encourage treatment planning, multidisciplinary care, electronic cancer reporting, funding opportunities, and so on.
4. In collaboration with other state and national initiatives, promote the adoption of the electronic health record (EHR) by physicians and health care institutions for data sharing and communication.
5. Encourage care providers to adopt and implement technologies that enhance and optimize timely communication with patients, such as e-mail and cell networks.
6. Encourage and support integrative care networks (including the range of services required by patients) that utilize e-Health technology.

Objective 2: By 2012, increase access to and utilization of patient navigation and support services.

Baseline: Currently, there are three patient navigators affiliated with the ACS and 40 nurse navigators affiliated with the newly formed Virginia Coalition of Nurse Navigators.

Target: Establish at least two additional patient navigators affiliated with the ACS and increase nurse navigators by at least 20 percent (20%).

Information Sources:

- ACS (<http://www.cancer.org>)
- National Coalition of Nurse Navigators (<http://www.nconn.org>)

Strategies:

1. Conduct a survey to identify navigation programs available and what they provide locally and regionally across the Commonwealth (e.g., develop a navigation resource website/book).
2. Identify gaps and needs for patient navigation programs.
3. Develop a campaign to increase awareness and use of navigation resources.
4. Determine the availability and accessibility of culturally and linguistically appropriate information and services to ensure that the needs of vulnerable populations, such as immigrant populations, are effectively met.
5. Provide information about patient navigation programs at the November 2008 Virginia State Cancer Conference.
6. In collaboration with the ACS, encourage the development and implementation of navigation programs to facilitate timely care and patient support in underserved areas.
7. Support patient navigator systems that utilize a variety of cancer professionals, (e.g., oncology social workers) to ensure quality, accessible and affordable care for patients and caregivers.
8. In collaboration with patient navigation programs, faith-based organizations, and community support programs, develop local networks to provide for the practical needs of patients and caregivers (e.g., transportation/ride sharing programs, meals delivery programs, respite services, babysitting services).

Objective 3: By 2012, increase the proportion of cancer patients, including those in HPSAs, who are receiving evidence-based, equitable, and integrated oncology care.

Baseline: Data not available

Target: A comprehensive database of evidence-based and integrated oncology services that is regularly maintained and updated

Information Sources:

- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- ASCO (Virginia members)
- VDH (www.vdh.state.va.us/healthpolicy/primarycare/shortageareas.htm)
- Health care systems and providers
- Virginia Community Health Care Association (www.vacommunityhealth.org)
- Virginia Department of Medical Assistance Services (www.dmas.virginia.gov)

Strategies:

1. Define integrated oncology care.
2. Identify barriers to accessing appropriate and effective cancer care.
3. Identify gaps in health insurance coverage that prevent patients from receiving comprehensive and effective cancer care.
4. Implement awareness campaigns in communities with the greatest cancer health disparities about the availability of programs and resources.
5. Identify and publicize cancer-related medication programs.
6. Increase enrollment of uninsured and underinsured cancer patients in public health care plans (e.g., Medicaid, supplemental Medicare, Veterans Administration Services).
7. Develop philanthropic and statewide resources and legislative initiatives to expand funding of indigent care for cancer-related services.

Goal 3: Virginians will have access to innovative and potentially effective cancer treatment and clinical trials.

Objective 1. By 2012, increase the proportion of cancer patients who participate in cancer treatment clinical trials.

Baseline: Nationally, 3 percent (3%) to 5 percent (5%) of adults with cancer participate in clinical trials (data from National Cancer Institute Cancer Clinical Trials, the basic workbook, available from (<http://www.cancer.gov/clinicaltrials/resources/basicworkbook/>)).

Target: To be determined

Information Sources:

- NCI (<http://www.cancer.gov/clinicaltrials/resources/basicworkbook/>)
- Virginia Hospital and Healthcare Association (<http://www.vhha.com>)
- Oncology related, NCI-funded cooperative groups (<http://ctep.cancer.gov/resources/coop2.html>)
- NCI-designated cancer centers (http://cancercenters.cancer.gov/cancer_centers/index.html)
- Education Network to Advance Cancer Clinical Trials (<http://www.enacct.org/>)

Strategies:

1. Establish baseline data to determine the number of Virginia adults who participate in clinical trials.
2. Inform patients and providers, especially those in health HPSAs, of the NCI clinical trials website (<http://www.cancer.gov/Search/SearchClinicalTrialsAdvanced.aspx>) and create strategic links to other Virginia cancer-related websites.
3. Support ongoing efforts to document the experiences of providers and patients regarding cancer treatment clinical trials (e.g., a periodic statewide survey).
4. Identify barriers to participation in cancer treatment clinical trials.
5. Determine the geographic distribution of cancer treatment clinical trial participants from American College of Surgeon CoC-approved hospitals to focus efforts.
6. Establish a cancer clinical trials awareness day, week, or month to promote enrollment in clinical trials.

Objective 2. By 2012, increase awareness of clinical trials through broad-based channels that are culturally and linguistically appropriate.

Baseline: To be determined

Target: To be determined

Information Sources:

- ASCO (Virginia members) (<http://www.asco.org>)
- VDH (<http://www.vdh.state.va.us>)
- American College of Surgeons CoC (<http://www.facs.org/cancer/>)
- CPAC member organizations (<http://www.virginiacpac.org>)
- NCI Cancer Information Service (<http://cis.nci.nih.gov/>)
- Education Network to Advance Cancer Clinical Trials (<http://www.enacct.org/>)

Strategies:

1. Encourage use of a web server log file analysis program such as Webalizer and establish baseline utilization.
2. Make patients and providers, especially those in HPSAs, aware of the NCI clinical trials website (<http://www.cancer.gov/Search/SearchClinicalTrialsAdvanced.aspx>).
3. Ensure that a link to this site is maintained by CPAC partners, including VDH and other community and academic agencies.
4. Develop and implement a communications plan to raise awareness of clinical trials in underrepresented populations using culturally and linguistically appropriate messages.
5. Develop and implement a plan to measure the impact of web-accessible information on participation in cancer treatment clinical trials.

Objective 3. By 2012, increase clinical and translational cancer research in Virginia.

Baseline: Data not available

Target: To be determined

Information Sources:

- NCI (<http://www.cancer.gov/>)
- National Institutes of Health (NIH) (<http://www.nih.gov/>) (www.cancer.gov/clinicaltrials/learning)
- Academic medical centers in Virginia
- VDH (<http://www.vdh.state.va.us/>)
- CPAC member organizations (<http://www.virginiacpac.org>)
- Education Network to Advance Cancer Clinical Trials (<http://www.enacct.org/>)

Strategies:

1. Explore the feasibility of a statewide cancer research consortium of public and private health care institutions, state and local government agencies, industries, and advocacy groups to promote and advance cancer research across the Commonwealth of Virginia.
2. Identify federal, state, and private sources of funding to support and develop research collaborations within the Commonwealth of Virginia.

Survivorship and Palliative Care

Survivors are people diagnosed with cancer who are living with, through, or beyond cancer. The term also includes family members, friends, and caregivers. Survivorship covers the physical, psychosocial, and economic issues of cancer, from diagnosis until the end of life. It includes issues related to the ability to get treatment and follow-up care, long-term side effects of treatment, recurrent or second cancers, and quality of life. The legal, financial, physical, and emotional challenges faced by cancer survivors and their families do not stop when the disease process changes or disappears.

Understanding what palliative care is and how to get this type of care can help improve the quality of life at any stage of survivorship. Palliative care is meant to relieve the symptoms or problems caused by cancer or other diseases. Many aspects of palliative care can be applied during the early course of cancer treatment. One important aspect of palliative care is the control of pain and other symptoms. Palliative care also considers the psychological, social, and spiritual well-being of the individual. Although this type of care was once more commonly associated with the end of life, the goal of palliative care is to relieve physical, emotional, and practical concerns at all stages of illness.

Why Are Survivorship and Palliative Care Important?

More people are living longer and surviving cancer than ever before. The NCI (2008) estimates that about 10.5 million Americans with a history of cancer were alive as of January 2003. Sixty-five percent (65.3%) of all cancer survivors are expected to live for at least five years after diagnosis. Increasing awareness and knowledge among the general public, policymakers, and health care providers about the needs of cancer survivors is necessary to assure that resources are in place when they are needed. This means that cancer survivors and their families need to receive follow-up and long-term care to ensure the highest possible quality of life. Improving follow-up and long-term management will assure that the increasing number of cancer survivors live even longer, happier lives.

Health care, social, and political systems need to be able to assess, anticipate, and respond to the long-term needs of cancer survivors. Long-term survivorship issues include psychological and emotional well-being, side effects of treatment, physical fitness and nutrition, financial issues for individuals with and without health insurance, long-term health implications, and discrimination, such as denial of health benefits and life insurance. Long-term survivorship issues affect different groups to varying degrees.

The assessment of the cancer survivor's physical, emotional, social, vocational, and financial well-being is necessary in order to develop a clear, comprehensive plan to meet the needs of each person. Health care providers may need further education in these areas.

Referrals for appropriate follow-up care, rehabilitation, and social services are required in addressing these needs.

To address these survivorship issues and needs, the VCP has identified the following Survivorship and Palliative Care goals, objectives, and strategies.

Goal 1: Cancer survivors in Virginia will have enhanced quality of life.

Objective 1: Improve the availability of information, resources, and services that allow survivors to meet the challenges of survivorship.

Baseline: Data not available

Target: Increase the number of cancer survivors, family members, caregivers, and health care professionals who indicate they are aware of cancer survivorship information, resources, and services.

Information Sources:

- Virginia Association for Hospices (www.virginiahospices.org)
- National Hospice and Palliative Care Organization (www.nhpco.org)
- American Psychosocial Oncology Society (<http://aposociety.org>)
- BRFSS (starting in 2009)
- ONS (www.ons.org)
- National Coalition for Cancer Survivorship (<http://www.canceradvocacy.org>)
- Community cancer coalitions
- Cancer survivors organizations
- Virginia CPAC (www.virginiacpac.org)
- Legal Information Network for Cancer (www.cancerlinc.org)

Strategies:

1. Add cancer survivorship questions to the 2009 BRFSS questionnaire.
2. Develop a diagram and logo that will provide a visual image of cancer survivorship and broader systems.
3. Identify and develop a resource guide for palliative care services and encourage participation in appropriate support groups.
4. Perform an assessment to identify the access, rehabilitation, legal, psychological, and social needs of cancer survivors and their families and disseminate the results, including:
 - Conduct meetings to discuss strategies for implementing the assessment results.
 - Develop documents that expand, clarify, and discuss cancer survivorship issues.

Objective 2: By 2012, develop a clearinghouse for cancer survivorship information and resources throughout the cancer continuum.

Baseline: Data not available

Target: Establish a clearinghouse for cancer survivorship information and resources.

Information Sources:

- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- Health and life insurance companies
- VDH (<http://www.vdh.virginia.gov>)
- HINTS (<http://hints.cancer.gov>)
- BRFSS 2009 (<http://apps.nccd.cdc.gov/brfss/>)
- Lance Armstrong Foundation (<http://www.livestrong.org/>)
- Virginia CPAC (<http://www.virginiacpac.org>)

Strategies:

1. Develop baseline data about cancer survivorship information and resources.
2. Assess and document culturally and linguistically appropriate information and resources for cancer survivors.
3. Develop strategies to address the gaps in information, resources, and services.
4. Create and maintain a multicultural database that includes therapy and rehabilitation services, support and education groups, and other cancer care resources at local, state, and national sources.
5. Assist survivors to access information relevant to all stages of survivorship.
6. Develop tools for survivors to help them communicate needs and expectations to health care providers and family, including pain and symptom management and advanced care planning.
7. Identify methods to reach diverse audiences with appropriate survivorship messages, especially hard-to-reach populations.
8. Encourage CPAC members and member organizations to meet with legislators in the General Assembly and the JLARC to:
 - Describe cancer survivorship issues
 - Appropriate funds to develop a clearinghouse for cancer survivorship information and resources.

Goal 2: Ensure that Virginians have information about and access to individually appropriate quality hospice and palliative care.

Objective 1: Ensure that health care providers can access information about advance care planning, palliative care services, and survivorship issues.

Baseline: Data not available

Target: To create more informed health care providers who have access to advance care planning, palliative care services, and survivorship issues

Information Sources:

- Medical Society of Virginia (<http://www.msv.org/>)
- Virginia ONS (<http://www.ons.org/>)
- American Psychosocial Oncology Society (<http://www.apos-society.org/>)
- Virginia Palliative Care Association (<http://www.massey.vcu.edu/treatment/?pid=2106>)
- Virginia Association for Hospices (<http://www.virginiahospices.org/>)
- Legal Information Network for Cancer (<http://www.cancerlinc.org>)

Strategies/Action Steps:

1. Develop a database of hospice and palliative care services that is accessible to health care providers.
2. Conduct an analysis to determine gaps in existing information about care planning, palliative care, and hospice services for cultural and linguistic competence.
3. Survey health care providers to determine their capacity to access current information and resources.
4. Establish a patient navigator network in Virginia.
5. Develop and implement workshops for patient navigators.
6. Provide education and training for health care providers about accessing culturally relevant information on policies relating to advance care planning, palliative care, and hospice services.
7. Distribute information on policies and educational materials relating to advance care planning, palliative care, and hospice services for cancer patients, their families, and caregivers.

Objective 2: By 2012, increase the proportion of cancer survivors who report that their pain is well managed.

Baseline: Data not available

Target: To be determined based on 2009 BRFSS data

Information Sources:

- BRFSS 2009 (<http://www.cdc.gov/BRFSS/>)
- CPAC website (<http://www.virginiacpac.org>)
- Legal Information Network for Cancer (<http://www.cancerlinc.org/>)

Strategies:

1. Utilize 2009 BRFSS data to implement culturally and linguistically appropriate pain management resources.
2. Coordinate and facilitate education sessions with health care professionals, survivors, family members, community-based organizations, and others about options for pain management.
3. Make hospice and palliative care information available on CPAC website.

Objective 3: By 2012, increase the proportion of cancer survivors who have advance care plans (including advance care directives) and palliative care services available to them.

Baseline: Data not available

Target: More cancer survivors will have advance care directives in place and palliative care services available to them.

Information Sources:

- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- Health insurance companies
- VDH (<http://www.vdh.state.va.us/>)
- National Home and Hospice Care Survey (<http://www.cdc.gov/nchs/about/major/nhhcsd/nhhcsdes.htm>)
- CPAC website (<http://www.virginia.org>)
- Legal Information Network for Cancer (www.cancerlinc.org)

Strategies:

1. Establish baseline data for the number of Virginians having advance care plans.
2. Integrate the guidelines for palliative care from the NCCN into routine cancer care.
3. Ensure that culturally and linguistically appropriate information about advanced care planning, palliative care, and hospice service is available to cancer survivors, their families, and providers.
4. Integrate advance planning and palliative care into the patient navigator network in Virginia.
5. Provide continuing education about survivorship issues for patient navigators.
6. Educate community health care providers, patients, and families about advance care plans (including advance care directives), palliative care, and hospice services.
7. Distribute information about advance care planning and palliative care along with educational materials to all cancer patients, their families, and caregivers.
8. Ensure that the continuum of cancer care includes after-death care.
9. Provide links to information about advanced care plans and directives on the CPAC website.

Objective 4: By 2012, increase the number of health care providers in Virginia who integrate palliative and hospice care into their practice.

Baseline: Data not available

Target: To be determined

Information Sources:

- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- Health insurance companies
- VDH (<http://www.vdh.state.va.us/>)
- National Home and Hospice Care Survey (<http://www.cdc.gov/nchs/about/major/nhhcsd/nhhcsdes.htm>)
- American Medical Association (<http://www.ama-assn.org>)
- Medical Society of Virginia (<http://www.msv.org>)

Strategies:

1. Establish baseline data to determine the number of health care providers who integrate hospice and palliative care into their practices.
2. Conduct a gap analysis to identify current resources and current and future needs.
3. Identify methods to increase the number of health care providers who are credentialed in hospice and palliative care.
4. Ensure that content on palliative care, advance directives, and end-of-life care are part of health profession education and training programs and continuing education.
5. Increase the number of palliative care providers who are part of underrepresented populations.
6. Increase centers of excellence in symptom management and palliative care.

Objective 5: By 2012, address financial barriers to the delivery of palliative care for Virginians with cancer.

Baseline: Current policies for coverage and reimbursement for palliative care

Target: To be determined

Information Sources:

- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- Health insurance companies
- VDH (<http://www.vdh.state.va.us/>)
- National Home and Hospice Care Survey (<http://www.cdc.gov/nchs/about/major/nhhcsd/nhhcsdes.htm>)
- Legal Information Network for Cancer (www.cancerlinc.org)

Strategies:

1. Identify and address barriers to the delivery of palliative care.
2. Assess existing policies regarding coverage and reimbursement for palliative care.
3. Inform businesses about the financial benefits of providing coverage for comprehensive palliative care services (e.g., decrease in lost productivity).
4. Promote changes in health care financing to include palliative care in all benefit plans, including self-insured employers.
5. Promote changes in benefit program eligibility to increase access to palliative care.
6. Advocate financing reform for integrating palliative care into standard cancer treatment programs.

Surveillance

Surveillance is the ongoing collection of information about a disease, such as cancer, in a group of people. The information collected may include where (geographically) the disease occurs in a population and whether it affects people of a certain gender, age, or ethnic group. Cancer reporting is the first step in Virginia's cancer surveillance program—a system designed to obtain medical and demographic information on Virginia residents diagnosed with cancer, in order to promote cancer prevention, early detection, and successful treatment.

The Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>) collects comprehensive information on all newly diagnosed cases of cancer occurring in a defined population, collects information on cancer deaths in the same population, stores the information permanently and securely, and analyzes the information and produces regular reports. A population-based registry, such as the Virginia Cancer Registry, is the best way to accurately assess the impact of a disease. The Virginia Cancer Registry has collected demographic and clinical information about cancer patients diagnosed and/or treated in Virginia since 1970. The Virginia Cancer Registry became population-based in 1990, when the reporting of newly diagnosed cancer cases was made mandatory for hospitals, clinics, and pathology laboratories.

With complete data on the occurrence of cancer in Virginia, the registry can report how many Virginians have cancer, identify trends and patterns of cancer in Virginia, and describe the different types of cancer that affect Virginia citizens. A comprehensive framework for cancer surveillance that covers the lifespan can provide information on risk, burden, disparity, cost, cancer care, survival, and death. Cancer incidence, the point in the continuum when an individual is diagnosed with cancer, provides information about newly diagnosed cancer cases.

In the future, this system of data collection and analysis should be enhanced and integrated with other cancer surveillance networks and other systems to provide timely information on the burden of newly diagnosed patients for various population characteristics (e.g., social, economic, race/ethnic, urbanicity, or access to care) in order to define, monitor, and reduce disparities in incidence noted among population groups. Collaboration in data collection, standard setting, surveillance activities, research, education and training, data use, and advocacy among all registries and national programs will be important to the continued success of the cancer incidence surveillance system. Cancer surveillance and the cancer registry are an integral part of the infrastructure to reduce the burden of cancer, including the numbers of newly diagnosed cases.

Behavioral Risk Factors Surveillance Survey (BRFSS)

Coordinated and supported by the CDC, the BRFSS is conducted by the 50 state health departments as well as those in the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands. The BRFSS provides state-specific information about issues such as diabetes, health care access, hypertension, obesity, cancer screening, nutrition, physical activity, and more. Federal, state, and local health officials and researchers use this information to track health risks; identify emerging problems; monitor health risk behaviors, chronic diseases, and disabilities; prevent disease; and improve treatment.

The BRFSS is used by Virginia and other states to collect information on health indicators for cancer among the state's adult population. The BRFSS is one of the primary tools for collecting data on cancer-related risk factors, contributing behaviors, and preventive screening in Virginia. The BRFSS is an ongoing, state-based, telephone survey of the citizen, noninstitutionalized population age 18 years and older that uses random digit dialing (RDD). Cancer data has been collected as part of the BRFSS since the 1990s.

Some of the findings from the 2006 BRFSS about cancer preventive screening practices include:

- Virginia is exceeding the Healthy People 2010 goal for mammography and close to meeting the goal for cervical cancer screening.

Healthy People 2010 Objective	U. S. Target	Virginia Baseline 2006
Increase the proportion of women age 40 and older who have received a mammogram within the preceding two years	70%	76.5%
Increase the proportion of women who receive a Pap test within the preceding three years	90%	87%

- The Healthy People 2010 goal has been exceeded for colon endoscopic screening, but not for use of FOBTs to detect colon cancer.

Healthy People 2010 Objective	U.S. Target	Virginia Baseline 2006
Increase the proportion of adults age 50 and older who have ever received a sigmoidoscopy	50%	65.3%
Increase the proportion of adults age 50 and older who have received a FOBT within the preceding two years	50%	26.3%

- BRFSS data from 2005 indicated that 53 percent (53%) of men age 40 and older in Virginia had a PSA test in the past two years. There is currently no national goal for prostate cancer screening.
- BFFSS data from 2005 revealed that 51 percent (51%) of adults age 40 and older in Virginia had a doctor or dentist check their mouth for signs of oral cancer within the past 12 months. The 2010 national goal for oral and pharyngeal cancer examination is, "Increase the proportion of adults who, in the past 12 months, report having had an examination to detect oral and pharyngeal cancer." The 2010 target is 35 percent (35%) and the baseline is 14 percent (14%).

To address these surveillance issues and needs, the VCP has identified the following surveillance and data goals, objectives and potential solution strategies.

Surveillance and Data

Goal 1: Virginians will have comprehensive and responsive cancer information systems and cancer data that can be used for planning, implementing, and evaluating.

Objective 1: Inform and educate cancer-control stakeholders on the availability and use of cancer data.

Baseline: Data not available

Target: To be determined

Information Sources:

- VDH
- Division of Chronic Disease Prevention and Control
 - Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)
 - Comprehensive Cancer Prevention and Control Project (<http://www.vahealth.org/cdpc/cancerprevention/>)
- Virginia Community Healthcare Association (www.vacommunityhealth.org)
- Local Health Departments (<http://www.vdh.virginia.gov/lhd/>)
- CPAC website (<http://www.cpacvirginia.org>)

Strategies:

1. Establish baseline database regarding stakeholders' awareness of the availability and use of cancer data.
2. Conduct a survey of CPAC member organizations regarding the need for and use of cancer data.
3. Create customized reports regarding the burden of cancer for specific audiences, including policymakers, legislators, and so on.
4. Collect, analyze, and report on a broad range of data, including incidence, mortality, risk behaviors, hospital discharges, and economic data.
5. Ensure that data reports are culturally and linguistically appropriate.
6. Disseminate reports using a variety of methods, (e.g. print, broadcast, websites).
7. Conduct periodic assessments following the delivery of various data reports to determine relevance, timeliness, and additional needs.
8. Provide a cancer data update to CPAC members at a quarterly meeting at least once a year.

Objective 2: Expand and enhance the existing cancer data systems in Virginia to fully support the needs of Virginia health care professionals, policy-makers, planners, researchers, and the general public.

Baseline: Data not available

Target: To be determined

Information Sources:

- VDH
 - Division of Chronic Disease Prevention and Control
- Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)
- BRFSS (<http://www.cdc.gov/BRFSS/>)
- Virginia Vital Statistics (http://www.vdh.state.va.us/vital_records/index.htm)

Strategies/Action Steps:

1. Support the creation and implementation of the Virginia Cancer Registry Advisory Committee.
2. Create a framework to facilitate the creation of a comprehensive Virginia cancer data set.
3. Create a web-based Virginia cancer data information system to include:
 - Tutorial on data use
 - Calculating and interpreting statistics
 - Data suppression and confidentiality issues
 - Mechanism to provide partners with cancer data
 - Utilities to track user activity.

Objective 3: Enhance the capacity to produce and disseminate user-friendly cancer data.

Baseline: Data not available

Target: To be determined

Information Sources:

- VDH
 - Division of Chronic Disease Prevention and Control
- Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)
- South Atlantic Division of the ACS (<http://www.cancer.org>)
- American College of Obstetricians and Gynecologists (<http://www.acog.org>)
- Virginia Community Healthcare Association (<http://www.vacommunityhealth.org>)
- Health literacy specialists

Strategies:

1. Develop a framework for user-friendly cancer resources about data.
2. Identify and compile similar resources and efforts in other states and evaluate their usefulness and effectiveness.
3. Produce and disseminate customized user-friendly, culturally and linguistically appropriate cancer data reports.
4. Support the creation and implementation of the Virginia Cancer Registry Advisory Committee.

Objective 4: Identify and address the gaps in Virginia cancer data systems.

Baseline: Data not available

Target: To be determined

Information Sources:

- VDH
- Division of Chronic Disease Prevention and Control (<http://www.vahealth.org/cdpc>)
 - Cancer Prevention and Control Program (<http://www.vahealth.org/cdpc/cancerprev>)
 - Virginia Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)
- South Atlantic Division Office of ACS (<http://www.cancer.org>)
- Virginia CPAC (www.virginiacpac.org)

Strategies:

1. Evaluate existing data systems infrastructure to determine system capacity, capability, and existing gaps.
2. Promote the increased awareness of the general public, patients, and health care professionals about the existence of cancer data.
3. Assess how various audiences such as the public, patients, and health care professionals use cancer data.
4. Assess data and information needs for implementing the cancer plan goals and objectives.
5. Encourage data sharing among data providers.
6. Inform health care professionals, service providers, and health systems about the importance of accurate and timely cancer data in describing access to care issues.
7. Inform legislators and policymakers about the importance of accurate and timely cancer data collection and how it addresses cancer health care needs and influences policies related to cancer.

Objective 5: Identify and promote policies that will enhance the collection and dissemination of timely and meaningful cancer data.

Baseline: Data not available

Target: Policies and strategies for disseminating and promoting quality cancer data are established and utilized.

Information Sources:

- VDH
 - Cancer Registry (<http://www.vahealth.org/cdpc/cancer/index.asp>)
 - Cancer Prevention and Control Project (<http://www.vahealth.org/cdpc/cancerprev>)
 - Division of Health Statistics (http://www.vdh.state.va.us/vital_records/index.htm)
- South Atlantic Division of the ACS (<http://cancer.org>)
- CPAC (cpacvirginia.org)

Strategies:

1. Establish baseline data about current policies for collecting, promoting, and disseminating cancer information.
2. Secure adequate funding of Virginia cancer data systems.
3. Enhance mechanisms for reporting cancer data by local cancer and hospital registries to the Virginia Cancer Registry.
4. Promote the collection of more detailed data by region, race, ethnicity, disability, age, culture, and socioeconomic status.
5. Develop and use technology resources and infrastructure to support statewide data collection and reporting.
6. Provide technical assistance and training for facilities and health care professionals to increase the timely and complete reporting of cancer data.
7. Secure electronic medical records and automated data collection software in Virginia to enhance data collection.
8. Gather and use feedback from health care facilities and professionals to improve cancer data reporting, collection, and use.
9. Raise awareness of training, qualifications, compensation, and attrition of highly qualified certified tumor registrars.
10. Achieve and maintain North American Association of Central Cancer Registries gold certification for the Virginia Cancer Registry.

Health Equity and Equality

Equity and equality in cancer care are important issues. The NCI defines “cancer health disparities” as “differences in the incidence, prevalence, mortality, and burden of cancer and related adverse health conditions that exist among specific population groups in the United States.” Cancer disparities are due in large part to delayed diagnosis with less than appropriate individual care. Individuals of all ethnic backgrounds who are poor, lack health insurance, or have less than adequate access to quality cancer screening and treatment experience higher cancer incidence and mortality, and poorer survival rates.

Reasons for health disparities in underserved, minority, and hard-to-reach population groups include (Haynes and Smedley, 1999; Smedley, Stith, and Nelson, 2003; Intercultural Cancer Council, 2004):

- Sharp differences in socioeconomic status that results in unequal availability, access, and utilization of health services
- Unequal diagnosis, work-up, and treatment after entering the health care system
- Social, racial, and environmental injustice
- Individual and institutional prejudice and discrimination.

Similar to the national picture, all segments of the population in Virginia are not affected by cancer in the same way. Segments of the population that are more likely to have undesirable cancer outcomes include rural communities, older residents, racial and ethnic minorities, people with disabilities, individuals who have lower socioeconomic status, and those without health insurance. Equity and equality in cancer care means that all Virginians have access to quality cancer care throughout the entire cancer continuum. Factors that influence cancer disparities in the United States include geography, language, gender, race/ethnicity, age, food supply and adequate nutrition, occupation, socioeconomic status, insurance coverage, cultural values and beliefs, disabilities, literacy and immune system disorders such as HIV/AIDS (U. S. Department of Health and Human Services, 2000).

The best-known research findings on cancer disparities involve differences by race and ethnicity, some of which have been discussed in an earlier section. However, a 2007 study published by the ACS indicates that people without health insurance were almost twice as likely to die within five years of being diagnosed with cancer as their insured counterparts. Uninsured people were less likely to get screened for cancer, more likely to be diagnosed at an advanced stage, and their survival rate was lower (Halpern et. al., 2008). State health behavior data from 2006 found that uninsured women in Virginia were from two to two and one-half times less likely to get a mammogram or Pap smear, uninsured men were 70 percent (70%) less likely to have a PSA, and uninsured adults were 81 percent less likely to get a colonoscopy or sigmoidoscopy (Virginia Comprehensive Cancer Control Project, 2007).

To address these equity and equality issues, the VCP has identified the following Health Equity and Equality goals, objectives, and strategies.

Goal 1: Establish equity and equality along the cancer care continuum in Virginia.

Objective 1: By 2012, establish an ongoing and coordinated system to monitor and document cancer health disparities.

Baseline: Data not available

Target: Monitoring system is established and utilized throughout the Commonwealth.

Information Sources:

- HINTS (<http://hints.cancer.gov>)
- Virginia Nursing Association (www.virginianurses.com)
- Virginia Association for Hospices (www.virginiahospices.org)
- National Hospice and Palliative Care Organization (www.nhpco.org)
- Cancer survivors organizations
- Area Health Education Centers (www.ahec.vcu.edu) (www.ahec.vcu.edu/easternva.htm) (www.nvahec.org)
- Community cancer coalitions
- ACS (<http://www.cancer.org>)
- NCI (<http://www.cancer.gov>)
- VDH, Office of Minority Health (<http://www.vdh.virginia.gov/healthpolicy/>)

Strategies:

1. Improve the availability and completeness of relevant data collection to address equity and equality issues related to cancer care and cancer outcomes.
2. Develop and disseminate information about cancer health disparities (e.g., fact sheets, websites, web links).
3. Initiate and sustain partnerships with key stakeholders (e.g., public agencies, academic institutions, businesses, health providers, community-based organizations) to identify resources and establish educational efforts to eliminate cancer disparities.
4. Strengthen the accuracy and timeliness of cancer reporting to the Virginia Cancer Registry:
 - Develop and strengthen data linkages with organizations such as third-party payers.
 - Support efforts to identify data gaps that demonstrate cancer disparities.

Objective 2: By 2012, increase the capacity of health systems (e.g., hospitals, clinics, private practices, community-based organizations, training and education programs) to provide culturally competent cancer care.

Baseline: Data not available

Target: To be determined

Information Sources:

- Health education programs
- Virginia Business Coalition on Health (<http://www.myvbch.org>)
- Joint Commission on Accreditation of Healthcare Organizations (<http://www.jointcommission.org/AccreditationPrograms/Hospitals>)
- Health insurance companies
- U.S. Department of Health and Human Services
 - Office of Minority Health (<http://www.omhrc.gov>)
- VDH
 - Office of Minority Health and Public Health Policy (<http://www.vdh.state.va.us/healthpolicy>)

Strategies:

1. Ensure ongoing cultural competency education activities for health care providers and students.
2. Support licensing standards for health care professionals to provide culturally competent cancer care.
3. Encourage payers to develop policies requiring providers to adopt recommended practices and guidelines that ensure equity and equality along the cancer care continuum.
4. Educate health care professionals on evidence-based screening and treatment guidelines for diverse populations.
5. Identify ways to increase the continuing education opportunities for providers in HPSA's through video conferencing and online courses.
6. Increase the number of underrepresented individuals in the oncology health care work force.
7. Promote the use of language services (e.g., interpreters, signage, translation) in all health care settings.
8. Provide culturally competent information about informed consent and decision-making, screening, treatment, clinical trials, advance directives, and end-of-life care.
9. Develop culturally and linguistically appropriate cancer education materials.

Objective 3: Increase access to cancer-related services (e.g., screening, prevention, treatment, survivorship) for all Virginians.

Baseline: Data not available

Target: To be determined

Information Sources:

- BRFSS (<http://www.cdc.gov/brfss/>) (<http://www.vahealth.org/brfss/questionnaires.htm>)
- HINTS (<http://hints.cancer.gov/>)
- Virginia Business Coalition on Health (www.myvbch.org)
- Area health education centers (www.nvahec.org) (www.ahec.vcu.edu/easternva.htm) (<http://www.ahec.vcu.edu>)
- CHCs (<http://www.vacommunityhealth.org>)
- Health insurance companies
- VDH (<http://www.vdh.virginia.gov>)

Strategies:

1. Address issues of equity and equality along the continuum of cancer care.
2. Increase access to and use of cancer services for all Virginians by:
 - Targeting screening efforts in low-socioeconomic populations
 - Promoting the use of e-Health technologies in HPSAs
 - Promoting awareness of cancer prevention and screening in culturally appropriate and community-specific languages and a variety of media (e.g., newspapers, radio, TV, Internet, billboards).
3. Identify the barriers to accessing cancer care in Virginia.
4. Increase the number of rural health care facilities that provide cancer treatment.
5. Increase availability, acceptability, and accessibility of cancer treatment drugs for HPSAs.
6. Increase the number of health care and community-based programs designed to reduce cancer disparities among underserved populations.
7. Increase culturally appropriate environments throughout the cancer care continuum.
8. Increase community capacity to address cancer control needs through public policy and legislation.
9. Encourage the General Assembly to target funding for localities to address cancer disparities in their communities.
10. Encourage CPAC members and member organizations to meet with legislators in the General Assembly and the JLARC to:
 - Describe cancer health disparities
 - Enact legislation that appropriates funds to ensure equity and equality along the cancer care continuum (<http://jlarc.state.va.us>), including:
 - Clean Indoor Air Act
 - EWL program.

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Glossary

Age-adjusted – A statistical method used to compare groups of people with different age composition. Without adjusting for age, it may appear that the cancer rates in one group of people are much higher than another group of people.

Behavioral Risk Factor Surveillance System (BRFSS) – State findings are based on 2006 data unless noted otherwise. Percentages are population-weighted. For more information about the BRFSS, go to the CDC website, <http://www.cdc.gov/brfss>.

Carcinogen – Any substance known to cause cancer.

Clinical Trials – Research studies that are designed to find improved ways to prevent, detect, diagnose, or treat cancer and to answer scientific questions. Treatment trials with cancer patients usually involve three phases to compare the best treatment to a promising new approach.

Commission on Cancer (CoC) – “A consortium of professional organizations dedicated to improving survival and quality of life for cancer patients through standard-setting, prevention, research, education and the monitoring of comprehensive quality care.”

Commission on Cancer (CoC) Cancer Physician Liaisons – “A grassroots network of physician volunteers willing to manage clinically-related cancer activities in their local facilities and surrounding communities.”

Culturally Competent – Cultural and linguistic competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations. Competence implies having the capacity to function effectively as an individual and an organization within the context of the cultural beliefs, behaviors, and needs presented by consumers and their communities.

Epidemiology – The study of disease incidence and distribution in populations, as well as the relationship between environment and disease.

Ethnicity – Refers to the social group a person belongs to based on a shared culture.

Five-Year Survival Rate – Refers to the chance of being alive five years after being diagnosed with cancer.

Health Disparities – Differences in the incidence, prevalence, mortality, and burden of cancer and related adverse health outcomes that exist among specific population groups.

Health Equity – Equal access to comprehensive, culturally competent, community-based health care systems that are committed to serving the needs of the individual and promoting community health regardless of age, gender, race, ethnicity, income, education, geographic location, disability, and sexual orientation.

Healthy People 2010 – A national health promotion and disease prevention initiative. Its goals are to increase the quality and years of healthy life and eliminate health disparities.

Incidence – The number of cases (new) of a specific disease that occurs in a given population in a specified time period (generally a year). Cancer incidence is the number of new cases of cancer diagnosed in a specified time period.

Malignant – Cancerous tumors that can invade and destroy nearby tissue and spread to other parts of the body.

Melanoma – A malignant melanoma is a potentially serious type of skin cancer.

Metastasis – The spread of cancer cells from the original site to other parts of the body.

Morbidity – Sickness, illness, or disability resulting from a disease or treatment.

Mortality – Death resulting from cancer (specific to this report, “mortality” refers to cancer).

National Center for Health Statistics (NCHS) – Provides U.S. Public Health statistics, including diseases, pregnancies, births, aging, and mortality. Public use data files are available for download from <http://www.cdc.gov/nchs>.

Obesity – Condition in which a person has high amounts of body fat; defined as a body mass index of 30 or greater

Palliative Care – Care that does not alter the course of a disease but improves the quality of life.

Population-Weighted Percentages – Population characteristics (e.g., age, sex, race) are taken into account in defining the population, or weighting the population.

Prevalence – The number of cases (new and existing) of a specific disease that are present in a given population in a specified time period.

Race – Refers to the social group a person belongs to on account of a mix of physical characteristics.

Risk Factor – Something that increases a person’s chance of developing a disease, such as age, sex, or tobacco use.

Secondhand Smoke – Smoke that comes from the burning of a cigarette and smoke that is exhaled by smokers.

Screening – A range of procedures used by health professionals to identify individuals with early cancer

Stage of Diagnosis – The stage that the cancer has progressed at the time of diagnosis.

- **In situ cancer** is early cancer that is present only in the layer of cells in which it began.
- **Localized cancer** is cancer that is limited to the organ in which it began, without evidence of spread.

- **Regional cancer** is cancer that has spread beyond the original (primary) site to nearby lymph nodes or organs and tissues.
- **Distant cancer** is cancer that has spread from the primary site to distant organs or distant lymph nodes.
- **Unstaged cancer** is cancer for which there is not enough information to indicate a stage.

Surveillance – Data that is used to monitor changes in cancer in a population. Included are measures of cancer incidence, morbidity, survival, prevalence, and mortality. Also included are the assessment of genetic predisposition, environmental and behavioral risk factors, screening practices, and the quality of care from prevention through palliation.

Survivorship – Cancer survivors are people who have been diagnosed with cancer and those in their lives who are affected by the diagnosis, including family members, friends, and caregivers.

Appendices

Cancer Plan Action Coalition Organizational Members

American Cancer Society
American Hospice Foundation
Anthem Blue Cross/Blue Shield
Arlington Free Clinic
Bon Secours Richmond Health System
Cancer Center at Virginia Hospital Center
Carilion Cancer Center
Eve's Haven Alternative Healthcare and Health
Fairfax County Health Department
INOVA Fairfax Cancer Center
INOVA Fairfax Hospital/Health System
INOVA Health System, Community Health and Cultural Competency
Institute for Palliative and Hospice Training Inc.
Instructive Visiting Nurses Association
Johnston Memorial Cancer Center
Leukemia & Lymphoma Society
Mary Washington Hospital
Mary Washington Hospital Foundation
Mary Washington Hospital, Oncology Resource Services
Mountain Empire Older Citizens, Inc
National Cancer Institute-Cancer Information Service
National Ovarian Cancer Coalition, Central Virginia Division
Norfolk State University
Oncology Nursing Society
Patient Advocate Foundation
Piedmont Access to Health Services
Powerpact, Inc.
Sentara Community Health and Preventive Services
Sentara Health Care

The Virginia General Assembly
University of Appalachia College of Pharmacy
University of Richmond School of Law
University of Virginia Cancer Center
University of Virginia Cancer Center, Breast Program
University of Virginia Health Sciences Library at Wise
University of Virginia Health System, Department of Surgery
University of Virginia School of Nursing
Virginia Breast Cancer Foundation
Virginia Commonwealth University, Department of Physical Medicine and Rehabilitation
Virginia Commonwealth University, Department of Epidemiology and Community Health
Virginia Commonwealth University, Massey Cancer Center
Virginia Commonwealth University, School of Pharmacy
Virginia Community Healthcare Association
Virginia Department of Health
 Breast and Cervical Cancer Early Detection Program
 Comprehensive Cancer Control Project (VA-CCC)
 Division of Chronic Disease, Prevention, and Control
 Division of Health Statistics
 Health Promotion for People with Disabilities Project
 Office of Family Health Services
 Office of Minority Health and Public Health Policy
 Tobacco Use Control Project
 Virginia Cancer Registry
Virginia Department of Medical Assistance Services, Director of Health Care Services
Virginia Prostate Cancer Coalition
Virginia Tech, Institute for Community Health
Virginia Tobacco Settlement Foundation
West Piedmont Health District
Women's Cancer Advocacy Network
Women's Health Virginia

American College of Surgeons CoC-Approved Hospitals as of November 2007

CITY, STATE, ZIP	FACILITY/PROGRAM NAME	DESCRIPTION	ADDRESS
Abingdon, VA 24210-2955	Johnston Memorial Hospital	Community Hospital Cancer Program	351 Court Street Northeast
Alexandria, VA 22304-1592	Inova Alexandria Hospital	Community Hospital Comprehensive Cancer Program	4320 Seminary Road
Alexandria, VA 22306	Inova Mount Vernon Hospital	Community Hospital Cancer Program	2501 Parker's Lane
Arlington, VA 22205-3698	Virginia Hospital Center-Arlington	Teaching Hospital Cancer Program	1701 North George Mason Drive
Charlottesville, VA 22902-9940	Martha Jefferson Hospital	Community Hospital Comprehensive Cancer Program	459 Locust Avenue
Charlottesville, VA 22908-0001	University of Virginia Health System	Teaching Hospital Cancer Program	1215 Lee Street
Chesapeake, VA 23320-4941	Chesapeake General Hospital	Community Hospital Comprehensive Cancer Program	736 Battlefield Boulevard North
Danville, VA 24541-2922	Danville Regional Medical Center	Community Hospital Comprehensive Cancer Program	142 South Main Street
Fairfax, VA 22033-1709	Inova Fair Oaks Hospital	Community Hospital Cancer Program	3600 Joseph Siewick Drive
Falls Church, VA 22042-3300	Inova Fairfax Hospital	Teaching Hospital Cancer Program	3300 Gallows Road
Fishersville, VA 22939-2332	Augusta Medical Center	Community Hospital Cancer Program	78 Medical Center Drive
Fredericksburg, VA 22401-3354	Mary Washington Hospital	Community Hospital Comprehensive Cancer Program	1001 Sam Perry Boulevard
Hampton, VA 23666-5963	Sentara Careplex Hospital	Community Hospital Comprehensive Cancer Program	3000 Coliseum Drive
Hampton, VA 23667-0001	VA Medical Center	Veterans Affairs Cancer Program	100 Emancipation Drive
Harrisonburg, VA 22801-3293	Rockingham Memorial Hospital	Community Hospital Comprehensive Cancer Program	235 Cantrell Avenue
Hopewell, VA 23860-2938	John Randolph Medical Center	Community Hospital Cancer Program	411 West Randolph Road
Leesburg, VA 20176-5101	Inova Loudoun Hospital Center	Community Hospital Cancer Program	44045 Riverside Parkway
Lynchburg, VA 24501-1167	Centra Health	Community Hospital Comprehensive Cancer Program	1701 Thomson Drive
Manassas, VA 20110-4418	Prince William Hospital	Community Hospital Cancer Program	8700 Sudley Road
Martinsville, VA 24112-1900	Memorial Hospital	Community Hospital Cancer Program	320 Hospital Drive
Mechanicsville, VA 23116-1844	Memorial Regional Medical Center	Community Hospital Cancer Program	8260 Atlee Road
Nassawadox, VA 23413-0017	Shore Memorial Hospital	Community Hospital Cancer Program	9507 Hospital Avenue
Newport News, VA 23601-1976	Riverside Regional Medical Center	Community Hospital Comprehensive Cancer Program	500 J. Clyde Morris Boulevard

CITY, STATE, ZIP	FACILITY/PROGRAM NAME	DESCRIPTION	ADDRESS
Norfolk, VA 23505-4650	Bon Secours-DePaul Medical Center	Community Hospital Cancer Program	150 Kingsley Lane
Norfolk, VA 23507-1999	Sentara Norfolk General Hospital	Teaching Hospital Cancer Program	Sentara Cancer Institute 600 Gresham Drive
Portsmouth, VA 23707-3270	Bon Secours Maryview Medical Center	Community Hospital Cancer Program	3636 High Street
Portsmouth, VA 23708-2197	Naval Medical Center Portsmouth	Teaching Hospital Cancer Program	620 John Paul Jones Circle
Pulaski, VA 24301-0759	Pulaski Community Hospital	Community Hospital Cancer Program	2400 Lee Highway
Reston, VA 20190-3298	Reston Hospital Center	Community Hospital Cancer Program	1850 Town Center Parkway
Richmond, VA 23226-1907	Bon Secours St. Mary's Hospital	Community Hospital Comprehensive Cancer Program	5801 Bremo Road
Richmond, VA 23235-4730	CJW Medical Center	Community Hospital Comprehensive Cancer Program	1401 Johnston-Willis Drive
Richmond, VA 23229	Henrico Doctor's Hospital-Forest	Community Hospital Comprehensive Cancer Program	1602 Skipwith Road
Richmond, VA 23249-0002	Hunter Holmes McGuire VA Medical Center	Veterans Affairs Cancer Program	1201 Broad Rock Boulevard
Richmond, VA 23298-5017	Medical College of Virginia Hospitals	Teaching Hospital Cancer Program	401 College Street
Richmond, VA 23220-4308	Retreat Hospital	Community Hospital Cancer Program	2621 Grove Avenue
Roanoke, VA 24022	Carilion Health System	Teaching Hospital Cancer Program	213 South Jefferson Street
Salem, VA 24153-7494	Lewis-Gale Medical Center	Community Hospital Comprehensive Cancer Program	1900 Electric Road
Salem, VA 24153-6478	Salem VA Medical Center	Veterans Affairs Cancer Program	1970 Roanoke Boulevard
Virginia Beach, VA 23454-0685	Sentara Virginia Beach General Hospital	Community Hospital Comprehensive Cancer Program	1060 First Colonial Road
Williamsburg, VA 23188-5713	Sentara Williamsburg Regional Medical Center	Community Hospital Cancer Program	100 Sentara Circle
Winchester, VA 22604	Winchester Medical Center	Community Hospital Comprehensive Cancer Program	PO Box 3340
Woodbridge, VA 22191-3399	Potomac Hospital	Community Hospital Cancer Program	2300 Opitz Boulevard

VIRGINIA CANCER PLAN ACTIVITY TRACKING REPORT

Organization/CPAC Work Group _____
 Contact Person _____ Contact Telephone (_____) _____ - _____
 Contact's Address _____ Date Submitted _____

1. ACTIVITY DESCRIPTION (briefly describe)

2. DURATION

Start Date: ____/____/20____ Time ____:____ am/pm (Circle Day: Sun Mon Tue Wed Thu Fri Sat)

End Date: ____/____/20____ Time ____:____ am/pm (Circle Day: Sun Mon Tue Wed Thu Fri Sat)

Was activity part of a series? Yes No If yes, explain in Section 7.

3. TARGET AUDIENCE

a. Age: General Audience < 24 25-44 45-64 65 and over Other _____

b. Gender: General Audience Females Only Males Only

c. Race/Ethnicity: General Audience Specific Group _____

d. Audience: General Audience Survivors, General Survivors, Cancer Type(s) _____

Health Professionals Family Caregivers Community Organizations/Support Groups

Other _____

4. LOCATION Statewide Region – Circle Region: Northwest North East Central Southwest

5. FUNDING

(Enter name of partner, co-sponsor or contributor and amount of in-kind*contribution):

_____ \$
 _____ \$
 _____ \$

(Enter name of partner, co-sponsor or contributor and amount of cash contribution):

_____ \$
 _____ \$
 _____ \$

*For example, donated staff time, materials, space, etc.

6. VIRGINIA CANCER PLAN SECTION ADDRESSED BY THIS ACTIVITY

Early Detection Health Equality and Equity (Disparities) Prevention Surveillance
 Survivorship and Palliative Care Treatment

7. EVALUATION

- a. Number of participants who attended this activity? _____
- b. Knowledge Test(s): Pre-Test: Yes No Post-Test: Yes No
- c. Were audiovisuals used? Yes No
- d. Were handouts available for participants? Yes No
- e. Were continuing education credits offered? Yes No
- f. Was the activity (or any part) recorded? Yes No
If yes, Audio Only Video Only Both Audio and Video
- g. Were participants able to share personal stories, etc.? Yes No
- h. Did participants evaluate this activity? Yes No
If yes, was a form used? Yes No Attach evaluation form.
- i. Were the objectives/purpose met? Yes No
- j. Identify the strengths of this activity_____

k. What would you do differently if you repeated this activity? _____

Additional Comments:

Attach any promotional materials (e.g., flyers, newsletters, press releases) associated with this activity. Submit this Virginia Cancer Plan Activity Tracking Report 30-days following the completion of the activity to:

Comprehensive Cancer Control Program
Attention: Myra Shook
Phone (804) 864-7890 Fax (804) 864-6152 Email: myra.shook@vdh.virginia.gov

(Updated December 2007)



Division of Chronic Disease Prevention and Control
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