



Washington State Comprehensive Cancer Control Plan *2009-2013*

Version 4
April, 2010

WASHINGTON
CARES
ABOUT CANCER
Partnership

Dear Washingtonians,

The past five years has been an exciting time. The Partnership enjoyed a number of successes, including the passage of the Clean Indoor Air Act, a symposium on Quality of Cancer Care, and the formation of a non-profit organization dedicated to the prevention of colorectal cancer. There have also been tremendous changes in how public health and medical professionals view their role in improving health, with an even greater focus put on common risk factors for chronic disease, including cancer. When it came time to update the Washington Comprehensive Cancer Control Plan, we realized that the direction of The Partnership was also shifting, and we needed to make changes that reflect our new direction.

In March 2009, The Partnership began the process of restructuring to focus on policy, environmental, and systems change in local communities. We believe that sustainable improvements in health and environment occur in communities, through strategies implemented by community members based upon data that informs local priorities. These strategies at the community level will help reduce the burden of cancer. To reflect this new focus, we changed our name from the Washington Comprehensive Cancer Control Partnership to Washington CARES About Cancer Partnership (WA CARES). CARES stands for Community Action, Research, and Evidence-based Systems, which conveys what we believe; community involvement is the most important course of action to prevent and control cancer in Washington State.

The Washington CARES About Cancer Partnership is pleased to present the 2009-2013 Washington Comprehensive Cancer Control Plan. To create this plan, WA CARES members and partners examined the current burden of cancer in Washington State, contributing risk factors, and methods to effectively improve the health and quality of life for those affected by this disease. This strategic plan provides Washington with an integrated plan of action that highlights strategies aimed at creating sustainable change in communities across the state.

Partners in the planning process have come from many sectors of our community, including community-based organizations; health-care organizations; local, state and federal agencies; medical professional organizations; education; academia; research; voluntary organizations; survivors; and health-care professionals. These partners are passionate about the work of this partnership, and it is only through their contributions and dedication that WA CARES could be successful and enjoy continued success on the road ahead.

Washington's Comprehensive Cancer Control Plan is only the beginning of a journey leading to a lower burden of cancer. As science and practical experience grow, new challenges, innovative tools, and more effective strategies will emerge based on the needs of Washington's residents. This plan is intended to be a resource for use by partner organizations, communities, and individuals to create, implement and sustain activities aimed at improving health and reducing the burden of cancer.

Cancer affects every one of us: our friends, family members, co-workers, and communities. It will take all of us working together to reduce the negative impact cancer has on our lives. As Chairperson of WA CARES, I am extremely thankful for the individuals and organizations who dedicated their time, expertise, skill, and talent in developing this plan. It is through this collaborative effort that we have a blueprint for action for the next five years.

Finally, this plan is an invitation for you to become involved in implementing strategies for comprehensive cancer control. The hardest work lies ahead – uniting our state's talent, skills and resources to implement this plan. The Partnership invites you to take action by volunteering to assist with a cancer awareness activity, serving on a committee or coalition aimed at improving health in your community, or supporting community or statewide activities focused on cancer control. All Washingtonians have a role in the fight against cancer. Working together, we can transform the vision of a cancer-free Washington into a reality.



Albert Einstein, MD
Chairman, Washington CARES About Cancer Partnership

A Special Thank You To . . .

... all those who gave of their time, expertise and energy to develop the Washington State Comprehensive Cancer Control Plan.

... all of the health care professional and researchers who work with cancer in Washington State.

... all of the friends, family, and co-workers of those afflicted with cancer for their care and support.

Front cover photograph of Mt. Adams courtesy of...

...Darby A. Libby

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Introduction

Cancer has been the overall leading cause of death in Washington State since 2004.¹ Nationally, cancer is the second leading cause of death.² There is a strong likelihood that every resident of Washington has been touched by cancer in some way, whether as a patient or the loved one of a patient. Though much has been done to reduce the burden of cancer, there are still gaps. Cancer does not affect everyone equally. Considerable differences exist between race, ethnicity and gender.

Declining birth and death rates mean that Washington's population, like that of the United States (U.S.), is aging. As the population ages, the burden of cancer will increase. Cancer, however, is not an inevitable result of aging. Although some risk factors, such as age and heredity cannot be influenced, others can. Behavior-related risk factors, such as tobacco use, diet, obesity, and physical inactivity, contribute to a variety of cancers.³ According to a report by the National Medical Association Consensus Panel, these risk factors are most common among racial and ethnic minorities and people with lower levels of education and socio-economic status.⁴ There is evidence that people living in racial and ethnic communities often do not have enough access to nutritious foods or opportunities for exercise and physical activity. Smoking rates in these groups are among the highest. Individuals in these groups often lack health insurance, do not have a regular source of primary care, and suffer from other chronic diseases besides cancer. For those able to receive cancer treatment, there are significant disparities in access to quality care and treatment between race, gender, and socio-economic class. Evidence is mounting that shows many cancers and resulting deaths can be prevented. This can be achieved through greater effort to provide equal access to cancer prevention, early detection, and high quality treatment for all people regardless of race, ethnicity, gender, and socio-economic status.

The issue of disparities (or inequity) in accessing quality cancer care cuts across the entire continuum of care—prevention, early detection, treatment, survivorship, and end-of-life. In Washington—mirroring national trends—those with lower levels of education and low incomes experience risk factors for cancer at a higher rate than those who are well-educated and/or with higher incomes. Differences also exist between race and gender. For example:

- Although the adult smoking rate in Washington State is currently 16.5%, 28% of people with a high school diploma or less smoke, making up 51% of all smokers. The adult smoking rate for whites is 19%, 25% for African Americans, 27% for Hawaiian/Pacific Islanders, and 37% for Native American/Alaskan Natives.⁵
- While approximately 25% of adults in Washington are considered obese, 30% of African Americans and 36% of Native Americans and Alaskan Natives are considered obese. Compare this to 11% of Asians and Pacific Islanders. Thirty percent of people of Hispanic origin are obese. Those who make less than \$20,000 and those with a high school diploma or less tend to be more obese (32% and 31% respectively).⁵
- There are higher rates of physical inactivity among people who are obese than people without obesity (49% vs. 34%).⁶
- Only 25% of youth (10th grade) and adults eat the recommended five servings of fruit and vegetables per day.^{6,7}

Disparities also exist in terms of access to cancer screenings and general health care:

- Although colorectal cancer screening rates for adults 50 and older are currently at 60%, only 28% of the uninsured have been screened. Likewise, only 27% without a regular doctor and 49% making less than \$25,000 have been screened.⁵
- While 94% of women over 18 years of age have had a pap test, only 69% of women 18 to 24 have had a pap test. Of women with less than a high school diploma, the screening rate is 88%.⁵
- Approximately 67% of those making less than \$25,000 a year do not have health care coverage. Non-white people are far more likely than whites to not have health care coverage (33% vs. 11%). Fifty-seven percent of those with a high school diploma or less do not have health care coverage. Men are more likely to be uninsured than women (17% vs. 12%).⁵
- Although 12.5% of people in Washington State cannot afford to see a doctor, 22% of African Americans and 24% of people of Hispanic origin are unable to afford a doctor. Disparities exist for education level and income: 24% for those with less than a high school diploma and 29.5% for those making less than \$15,000 a year.⁵

The National Cancer Institute (NCI) defines cancer health disparities as “adverse differences in cancer incidence, cancer prevalence, death, and burden of cancer and related health conditions that exist among specific population groups in the United States.”⁸ According to the Centers for Disease Control and Prevention’s (CDC) Office of Minority Health and Health Disparities, life expectancy and overall health have improved in recent years for most Americans, but not all are benefiting equally.⁹ Trends and patterns in cancer incidence and death have shown that populations are disproportionately affected by the disease. The burden of cancer in Washington State, as will be described later in this Plan, in addition to the data above, clearly shows that access to high quality care and health information—from prevention to treatment—is not available for all people.

Developing the Foundation of the Plan

The mission of the Washington CARES About Cancer Partnership is to reduce cancer incidence and death and improve equity in access to appropriate preventative, diagnostic, medical, and palliative care. WA CARES acknowledges that access, quality of care, and health disparities are extremely wide-ranging issues that touch upon every facet of the continuum of care. These three issues are interrelated and affected by each other. Recognizing this, The Partnership examined how access, quality, and health disparities were addressed in the previous Plan. Through an evaluation of progress and gaps, these three issues stood out as the greatest challenges to reducing the burden of cancer. In the previous Plan, separate goals and objectives were laid out for access and quality, while health disparities were addressed throughout. However, through examining the definitions of access, quality, and health disparities, it became apparent that other goals and objectives were addressing these issues in ways that presented the opportunity for a significant impact on the burden of cancer. It became clear that to achieve success in improving access and quality, and to eliminate health disparities, the Plan should be based on these three issues. Access to Care, Quality of Care, and Health Disparities have become the foundation upon which this entire Plan is built.

Furthermore, in recognizing that cancer often develops due to poor health choices, socioeconomic conditions, or preventable medical conditions, the definitions of access and quality were expanded in this Plan to include the entire continuum of care over the lifespan. This acknowledges that to truly reduce the burden of cancer in Washington State, there must be concerted, integrated efforts to not only improve cancer care, but to reduce risk factors associated with cancer. These efforts should be wide-spread, bringing together both “traditional” and “non-traditional” partners. Yet they should touch the lives of the people most affected by cancer. The change should be long-term and sustainable, becoming part of each person’s daily life and our cultural ethos. To do this, The Partnership will reinvigorate its dedication to preventing and reducing cancer, by strengthening existing partnerships, developing new alliances, and expanding its reach into communities.

Access, Quality, and Health Disparities Defined

Access: The Institute of Medicine defines access as “the timely use of personal health services to achieve the best possible health outcomes.”¹⁰ Simply put, access to care means that people are able to get the health care services they need, when they need them, and in a way that they can use and benefit from them. Services across the lifespan should be available and accessible to all Washingtonians. Some factors that influence whether or not medical and preventive care is available and accessible include limited or no medical insurance coverage, long distance to a care facility, no primary care provider, and personal transportation limitations. Language, cultural, and socioeconomic barriers may also reduce the potential benefit of health care that is provided.¹¹ While ensuring that people with cancer are able to receive the appropriate treatment, creating systems and environments that support healthy living and healthy choices is equally important. Therefore, access also includes nutritious foods, opportunities for physical activity, and preventive health services (screenings, education) in communities where people of all ages live and work.

Quality: Quality includes the inherent characteristics of both the type of care and the delivery of care to patients across the lifespan. The Institute of Medicine measures quality of health care by the extent that it increases the likelihood of desired health outcomes and is consistent with current professional knowledge.¹² As with access, quality is considered throughout a person’s lifespan. Providing high quality care as early as possible in life decreases the likelihood that the patient would develop behaviors and risk factors that contribute to cancer. High quality care means every patient is provided the appropriate services (preventive, screening, and treatment) in a manner that is sensitive to their individual values and lifestyle. High quality care is also technically competent and includes the use of good communication skills while consistently involving the patient in shared decision-making. Poor quality care may include overuse, underuse, or misuse of tests, medications, and procedures, and may not involve the patient in discussions and decisions related to care options. The consequences of poor quality health care may include increased risk for cancer, reduced survival, and decreased quality of life.

Health Disparities: In Washington, the State Board of Health defines health disparities as “the disproportionate burden of disease, disability, and death among a particular population or group.”¹³ In other words, a group is unequally affected by a disease or health condition as compared to the state population as a whole. Many complex and interrelated factors contribute to the existence of health disparities. Things such as natural and biological variation, individual

choice, and behavior are considered unavoidable determinants of health and are often very difficult to affect. However, other determinants are avoidable, meaning they are unnecessary and should not (in an ideal world) play a role in an individual's overall health. The occurrence of health damaging behavior due to restricted choice of lifestyle (i.e. socioeconomic status), exposure to unhealthy, stressful living and working conditions, and inadequate access to essential health and other basic services play a large part in creating and maintaining health disparities.¹⁴ Examples of avoidable determinants of health include: a lack of food outlets that provide affordable, nutritious food in a community; lack of income to purchase healthy foods; poor air quality due to mold, diesel fuel, or asbestos; childhood exposure to second hand smoke; lack of adequate medical insurance; and a shortage of experienced medical providers in a community. In Washington, affected groups may be characterized by race, ethnicity, gender, age, education, income, disability, geographic location, or sexual orientation.

How the Partnership Will Do Its Work

The Washington CARES About Cancer Partnership formed in 2001 under the name Washington Comprehensive Cancer Partnership, and, after receiving funding from the CDC in 2002, began developing the first Washington State Comprehensive Cancer Control Plan. This Plan contained 20 goals and numerous objectives that covered the entire continuum of cancer care. When the Plan was completed and published in 2004, The Partnership moved from the planning phase into implementation of the Plan. To do this, they set up a centralized organizational structure with representatives from across the state. The operational side consisted of a Steering Committee, Membership and Communications Committee, Public Policy Committee, and Surveillance and Evaluation Committee. These committees were charged with providing leadership and guidance for in their respective areas. There were several implementation committees, including Primary Prevention, Secondary Prevention, and Medical Care. The Secondary Prevention Committee eventually broke out into site specific task forces for Breast and Cervical Cancer, Colorectal Cancer, Prostate Cancer, and Skin Cancer. In 2007, the Survivorship Subcommittee was formed by members of the Medical Care Committee to address issues specifically related to survivorship.

From 2004 to 2008, The Partnership enjoyed a number of successes, including a media campaign on informed decision making for prostate cancer, a symposium on Quality of Cancer Care, and the formation of Colon Cancer STARS (Support, Treatment, Awareness, Resources, and Screening), a non-profit organization dedicated to the prevention of colorectal cancer. The Partnership also supported the Clean Indoor Air Act and the Death with Dignity Act. In 2006, The Partnership was awarded the C-Change Exemplary Comprehensive Cancer Control Planning Award. The Partnership conducted a membership assessment and began the process to update the Washington Comprehensive Cancer Control Plan in early 2008. Surveys and roundtable discussions revealed the desire to make The Partnership better known; strengthen existing partnerships; expand the reach of The Partnership and its work in local communities; and to partner with "non-traditional" organizations to not only reduce the burden of cancer, but to improve the overall health of all Washingtonians.

As a result, there was a major transformation between 2008 and 2009. The Steering Committee determined that to expand the reach of The Partnership, refocus and reorganization was necessary. The Steering Committee voted to convert to a regionalized structure, where local

communities could implement the Plan through policy, environmental, and systems change based upon their area's priorities. Along with the momentous changes that were occurring in The Partnership, the Office of Community Wellness and Prevention (CWP) at the Washington State Department of Health (DOH) was undergoing a transformation of its own. CWP leadership recognized that many diseases, including cancer, have the same risk factors, but that programs worked primarily in a vacuum, often duplicating efforts. CWP saw the opportunity to do this work more efficiently and effectively, which could make greater strides toward improving the health of people in Washington. This led to intensive planning efforts to develop a framework for policy, environmental and systems change at the community level to reduce risk factors associated with chronic disease, as well as disability and death from these diseases. This work would be done in communities, by community members and organizations, based on data and community priorities. The Steering Committee voted to align the work of The Partnership with the work of CWP and formed a collaborative partnership to reduce risk factors for chronic disease at the community level. The CWP framework, now called "Healthy Communities Washington," is being launched in late 2009.

The goal of this new partnership with Healthy Communities Washington is to reduce or eliminate risk factors for cancer, thereby reducing the burden of cancer in Washington State. With funding from The Partnership pooled together with programs across CWP, local health jurisdictions (LHJs) in selected counties will begin building capacity to address policy, environmental and systems change in their communities. The Alliance for Reducing Cancer Northwest will provide training to LHJs to help them identify their community priorities based upon statewide data and community assessments. These priorities will be linked to the Washington Comprehensive Cancer Control Plan, as well as the strategic priorities of other CWP partners. Partnership Committees and Task Forces will continue to carry on broader, high-level activities, and will also work collaboratively with Healthy Communities Washington to provide guidance and technical assistance to communities. The intent is to have a statewide network of community based partners dedicated to reducing the burden of cancer and other chronic diseases. The original Operational Committees will continue to provide overall guidance and leadership to The Partnership.

In order to reflect this new direction, the name of The Partnership was changed from The Washington Comprehensive Cancer Control Partnership to the Washington CARES About Cancer Partnership. CARES stands for Community Action, Research, and Evidence-based Systems, which conveys what The Partnership believes: community involvement is the most important course of action to prevent and control cancer in Washington State.

About the 2009-2013 Plan

The following pages contain the goals, objectives, and strategies for the Washington CARES About Cancer Partnership in 2009-2013. This Plan is meant as a guide for communities and stakeholders to implement policy, environmental and systems changes that will reduce the burden of cancer and improve the overall health of all Washingtonians. Many of the goals and objectives from the previous Plan were simplified or consolidated, and issues related to access to care and quality of care were incorporated into strategies for achieving objectives. Additionally, most of the strategies align with The Guide to Community Preventive Services. Where the previous Plan contained detailed technical information on data and data sources, this information

was eliminated to make the Plan more reader-friendly. Specific statistical information (such as confidence intervals) was removed for the same purpose. The goals, objectives, and strategies are now highlighted at the beginning of each chapter, and the following discussions provide rationale for each goal's inclusion. Finally, the 2009-2013 Plan contains a list of resources and websites for users to consider when implementing strategies in their communities.

¹ Washington State Department of Health. *Washington State Vital Statistics and Induced Terminations of Pregnancy*. January 2009. <http://www.doh.wa.gov/ehsphil/CHS/chs-data/main.htm>

² National Center for Health Statistics, Centers for Disease Control and Prevention. *U.S. Mortality Data*.

³ American Cancer Society. *Cancer Statistics*. 2006, 2009. <http://www.cancer.org>.

⁴ National Medical Association. *Cancer in Minorities and the Underserved: Consensus Report of the National Medical Association*. Washington DC. 2009. http://www.nmanet.org/index.php/Convention_sub/cancer_report.

⁵ Washington State Department of Health . *Behavioral Risk Factor Surveillance System*. Olympia, WA. 2006. http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm.

⁶ Nutrition, Physical Activity, and Obesity Program, Washington State Department of Health . *Obesity in Washington State*. 2009. http://www.doh.wa.gov/cfh/NutritionPA/facts_and_figures/obesity_rates_wa/default.htm.

⁷ Washington State Department of Health . *Healthy Youth Survey*. Olympia, WA. 2008.

<http://www.askhys.net/layout.asp?page=reports/FactSheets>.

⁸ National Cancer Institute Center to Reduce Cancer Health Disparities. *Health Disparities Defined*. 2009. <http://crchd.cancer.gov/disparities/defined.html>.

⁹ Centers for Disease Control Office of Minority Health and Health Disparities. *Racial and Ethnic Populations*. 2008. <<http://www.cdc.gov/omhd/Populations/populations.htm>>

¹⁰ Institute of Medicine. *Access to Health Care in America*. First ed. Washington, DC: National Academy Press. 1993.

¹¹ Washington State Department of Health. *The Health of Washington State: A Statewide Assessment of Health Status, Health Risks, and Health Care Services*. 2007. <http://www.doh.wa.gov/HWS/HWS2007.htm>.

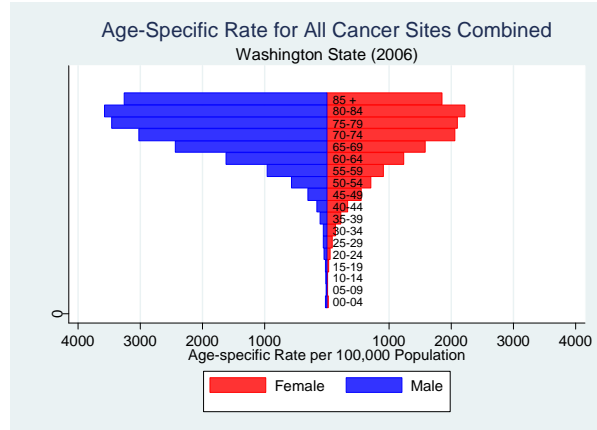
¹² Committee on the Quality of Health in America, Institute of Medicine. *Crossing the Quality Chasm: The IOM Health Care Quality Initiative*. Washington, DC: The National Academy Press, 2001.

¹³ Washington State Board of Health. *Board of Health Policy Goals and Priority Work Projects*. 2009. <http://www.sboh.wa.gov/Goals/Disparities/index.htm>.

¹⁴ Baquet C, Carter-Pokras O. *What is a "Health Disparity?"* Public Health Reports. 2002; 117: 426-434.

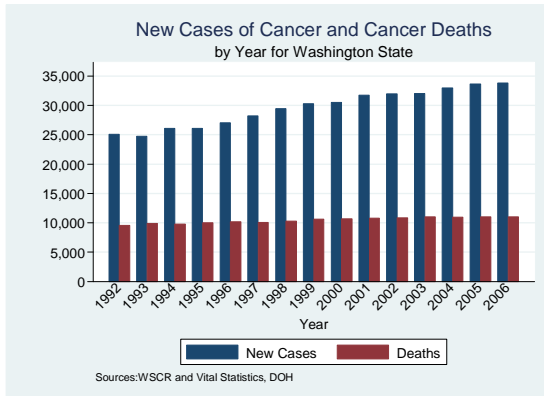
The Burden of Cancer in Washington State

Cancer is not a single disease. Cancer is, in fact, an assorted group of diseases characterized by uncontrolled growth and spread of abnormal or mutated cells in the body. This progression from normal cell to a cancerous tumor is often influenced by factors other than age.



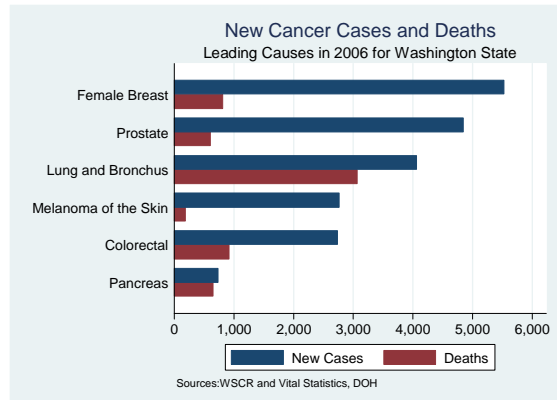
Burden of Cancer

These outside factors include lifestyle (e.g., diet, weight, tobacco exposure and other socioeconomic or cultural influences), environment (e.g., chemicals, sun exposure, and infectious agents) and genetics. Current estimates suggest that some form of cancer will likely strike 4 in 10 Washingtonians in their lifetime, and this number will likely increase as the population of Washington ages.



The number of newly diagnosed cases of cancer is on the rise. According to data from the Washington State Cancer Registry, in 2006 there were 33,810 new cases of cancer diagnosed in Washington, up from 26,097 cases reported in 1995.

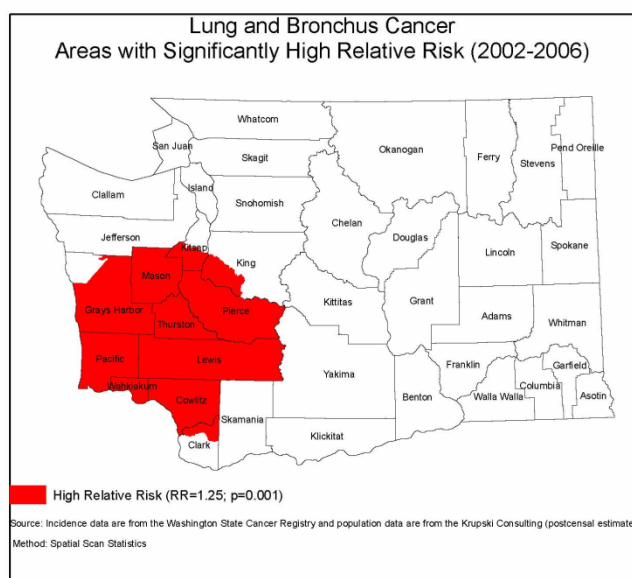
Excluding basal and squamous cell cancers of the skin, which are not monitored, the five most common types of cancer in Washington comprise 59% of all new cases. In 2006, female breast cancer continued as the most common cancer with 5,531 (16.3%) new cases diagnosed. Prostate cancer continued as the second most common cancer with 4,845 (14.3%) new cases identified. Cancers of the lung and bronchus (4,063 cases or 12%), melanoma of the skin (2,763 cases or 8.2%), and colon and rectum combined (2,737 cases or 8.1%) completed the five most common cancers.



The various forms of cancer were responsible for 11,003 deaths among Washington residents in 2006, approximately 24% of all deaths statewide. Cancer has consistently been the leading cause of death overall in Washington since 2004. The leading causes of deaths from cancer in Washington in 2006 were as follows: lung and bronchus (3,072 deaths), colon and rectum combined (924 deaths), female breast (809 deaths), pancreas (650 deaths), and prostate (610 deaths).

While the number of new cancer cases is increasing, the age-adjusted incidence rates for all cancers combined have remained essentially constant. Age-adjusted rates are commonly used in reporting cancer statistical data because cancers are, for the most part, diseases of the aging and elderly, and the age-adjustment process accounts for the age differences in the populations being studied.

Unlike age, tobacco exposure and use, diet, physical activity, heavy alcohol use, and sun exposure are risk factors that can be modified. The Washington Behavioral Risk Factor Survey System (BRFSS) has consistently identified that some southwestern counties of Washington have higher than average smoking rates. Not surprisingly then, those counties have been found to have a significantly high relative risk for lung cancer.



These geographic variations in cancer incidence, as well as differences in stage of disease at diagnosis and mortality, reflect likely differences in the cultural, racial, social, environmental, and economic characteristics of the communities. For instance, the incidence of female breast cancer is often found to be higher in higher-income communities, and this is generally attributed to an increased risk for breast cancer among women who delay or have no pregnancies—characteristics that are more often linked to women living in higher income areas. Conversely, the risk for late stage female breast cancer is generally higher among poor, minority and urban women. This is, in part, due to barriers in screening. A number of factors contribute to lower rates of breast cancer screening in some populations. These factors include:

- Difficulties in utilizing screening services (transportation problems, language and cultural barriers)
- Lack of education regarding the benefits of screening
- Excessive fear of cancer or the possibility of being diagnosed with cancer
- Lack of funds or insurance coverage to pay for screening services

Physician referral for mammography appears to be an important predictor; a significant proportion of women who had mammograms did so because their health care providers recommended they get one.

Different cancers appear to be associated with different people of different races. Prostate cancer, for example, is known to occur more frequently among African Americans; stomach cancers are significantly higher among Asians and Pacific Islanders; and melanoma of the skin is highest among whites. However, looking at cancer incidence worldwide as well as following the cancer incidence of immigrant populations over time, the data appears to suggest that, with the exception of melanoma, these differences by race are more a function of socioeconomic, cultural or lifestyle factors than genetics: blacks in Africa do not have as high a rate of prostate cancer as blacks in America do; and second and third generation Asian Americans do not have stomach cancers at any higher rate than the general population. Similarly, the differences in outcomes among races (as measured by five-year survival rates) is likely less a function of biological variation than differences in accessing diagnosis and treatment, delays in treatment, and cultural beliefs or fears.

Tobacco Use and Exposure

Goal 1: Reduce the impact of tobacco use and exposure on cancer incidence and death in Washington.

GOAL 1

- **Objective 1.1: By 2013, decrease the percentage of 10th grade youth who currently smoke to 10%.**

Baseline: 14.4% Data Source: 2008 HYS

Strategies

- Increase health knowledge, beliefs, and skills among youth, families and communities that encourage youth to not use tobacco.
- Promote development of tobacco-free environments for youth and young adults.
- Eliminate youth access to all tobacco products through enforcement of current anti-tobacco laws.
- Raise awareness of the relationship between youth tobacco use and other unhealthy risk taking behaviors and future health problems.

- **Objective 1.2: By 2013, decrease the percentage of adults who currently smoke to 14%.**

Baseline: 16.5%. Data Source: 2007 Behavioral Risk Factor Surveillance System (BRFSS)

Strategies

- Promote quitting among tobacco users.
- Improve access to cessation services in health care systems.
- Increase access to and services for cessation in non-medical settings.
- Develop policies that create smoke-free environments and encourage quitting.

- **Objective 1.3: By 2013, decrease smoking among adults with low socio-economic status (SES) to 25%.**

Baseline: 27.9 Data Source: 2006 BRFSS

Strategies

- Expand research and pilot projects to identify more effective ways to reduce tobacco use among groups with higher smoking rates.
- Assist rural health care providers and others serving low income populations in adding smoking cessation policies and procedures into routine clinical practice.
- Integrate tobacco cessation and prevention services into chronic disease prevention efforts.
- Promote awareness and use of the Tobacco Quit Line.
- Develop policies in communities that create smoke-free environments and encourage quitting.

● **Objective 1.4: By 2013, decrease the percentage of pregnant women who smoke to 8%.**

Baseline: 10% Data Source: Department of Health (DOH) Center for Health Statistics Birth Data

Strategies

- Work to educate pregnant women and young mothers about how to quit smoking and develop skills to stay quit.
- Promote awareness and use of the Tobacco Quit Line.
- Improve access to cessation services in health care systems.
- Collaborate with programs and organizations that promote the health and wellness of women, infants, and children.

● **Objective 1.5: By 2013, decrease the percentage of adults exposed to secondhand smoke in the home to 6%.**

Baseline: 8.6% Data Source: 2007 BRFSS

Strategies

- Support implementation of policies that prohibit exposure to secondhand smoke in the home (rentals, public housing, etc).
- Develop policies in communities that create smoke-free environments and encourage quitting.
- Promote awareness and use of the Tobacco Quit Line.
- Provide education and resources on the dangers of secondhand smoke.

● **Objective 1.6: By 2013, increase total funding for the state Tobacco Prevention and Control Program to at least the minimum level recommended by the Centers for Disease Control and Prevention (\$67 million).**

Baseline: 2007 funding - \$28 million Data Source: DOH Tobacco Prevention and Control Program

Strategies

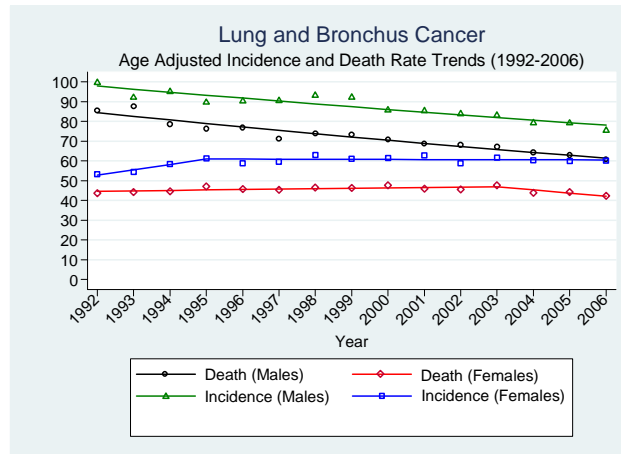
- Provide education to policymakers on the health impact of increased taxes on tobacco products and the need to earmark funds for tobacco prevention and control efforts.
- Collaborate with the CDC and other national organizations to develop and implement program promotion strategies.
- Advocate for a larger percentage of tobacco settlement funds to be allocated for tobacco prevention and control.

Tobacco is one of the leading cancer-causing agents, and cigarette smoking remains the leading cause of preventable death in the United States.

Scientific Evidence Linking Tobacco Use and Exposure to Cancer

Tobacco use causes several kinds of cancer including those of the lung, larynx, esophagus, pharynx, mouth, and bladder. The risk of dying from lung cancer is more than twenty-two times higher among men and twelve times higher among women who smoke cigarettes compared with

those who never smoked.¹⁵ Smoking also contributes to cancers of the pancreas, kidney, and probably cervix.



In 1992, the United States Environmental Protection Agency (EPA) classified environmental tobacco smoke as a Group A carcinogen. Group A carcinogens are the most dangerous cancer-causing agents in humans. Although information is not available for Washington State alone, nationally, exposure to tobacco smoke contributes to the deaths of an estimated 3,000 nonsmokers from lung cancer each year.¹⁶ Other tobacco products, such as smokeless tobacco, cigars, pipe tobacco, and novelty tobacco products, such as clove cigarettes (kreteks) and bidis, also pose serious health risks and are not safe alternatives to cigarettes.

Burden of Tobacco Use and Exposure

According to Washington Behavioral Risk Factor Survey System (BRFSS) data, 16.5% of adults in Washington reported being current smokers. Twenty-seven percent of adult smokers with children at home still smoke indoors, and more than 40% of women who quit smoking during pregnancy start again after giving birth.¹⁷

Data from the 2008 HYS show that 14.4% of 10th graders smoke cigarettes. About 75,000 Washington youth still smoke, and 45 youth start smoking every day.¹⁸

Disparities

From 2005 to 2007, average smoking rates were higher among American Indians (35%); lesbian, gay, bi-sexual, and transgender populations (34%); the economically disadvantaged (27%); and African Americans (22%). The rates for many of these groups have not dropped since 2000, while the rate for the general population has dropped by 25%.¹⁹

Current Activities to Reduce Tobacco Use and Exposure

The overall goals of the Washington State Tobacco Prevention and Control Program include:

- Identifying and eliminating tobacco-related disparities
- Preventing youth from beginning to use tobacco
- Increasing quitting among tobacco users

- Eliminating exposure to secondhand smoke

The state program works with local health jurisdictions, tribes, schools, and community organizations to deliver integrated anti-tobacco interventions to all Washington residents. The program takes a comprehensive approach to tobacco control that includes support for community and school programs, a public awareness and media campaign, a cessation program, efforts to prevent the sale of tobacco to minors, efforts to reduce exposure to secondhand smoke, and assessment and evaluation of all program activities. The program provides funding and support to local health jurisdictions and tribes to plan, implement, and evaluate tobacco prevention and control activities tailored to meet their needs.

Current program activities include a statewide youth-focused counter-marketing media campaign, retailer education, compliance checks and enforcement activities, and efforts to ensure that school districts implement comprehensive school-based prevention and education programs. The Tobacco Disparities Advisory Committee developed a strategic plan to expand the Washington State Department of Health's outreach to populations with high rates of tobacco use.

The state Tobacco Quit-Line provides Washington residents with a free service to help them quit using tobacco. People who are uninsured or receive Medicaid can call and obtain assistance with quitting that may include counseling and prescription drugs. Potential callers can learn more about the quit line by visiting <http://www.quitline.com/>. The state program also works with insurance companies to include coverage for smoking cessation in their benefit plans, and trains doctors and nurses to help their patients quit smoking. Detailed information on the efforts of the state Tobacco Prevention and Control Program can be found on their website, at <http://www.doh.wa.gov/tobacco>.

In 2005, Washington became the fifth state to implement the Clean Indoor Air Act, a comprehensive statewide law prohibiting smoking in all indoor public places and workplaces including restaurants, bars, taverns, bowling alleys, skating rinks, and non-tribal casinos. The program currently works with partners, including local health jurisdictions, the Office of the Attorney General, Labor and Industries, and local law enforcement to enforce clean indoor air regulations.

Gaps

Although the state is implementing a comprehensive program to reduce initiation of tobacco use and promote cessation, the program does not address all aspects and groups at risk for using tobacco products. For example, school curriculum programming is limited to 6th through 10th grades. Cigarette smoking is highest among young adults ages 18 to 24 and activities designed to address tobacco use and cessation are still in development for this group.

Effective Interventions to Reduce Tobacco Use and Secondhand Smoke Exposure

The Centers for Disease Control and Prevention's (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding interventions that communities, policymakers, and public health providers can employ to reduce tobacco initiation by children, adolescents, and young adults; reduce exposure to environmental tobacco

smoke; and increase cessation. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention's effectiveness. Examples of effective interventions include:

- Increasing the price of tobacco products
- Reducing out-of-pocket costs of cessation therapies
- Multi-component interventions that include telephone support
- Establishing smoke-free policies and bans (including workplaces)
- Mass media campaigns when combined with other interventions
- Provider reminder systems (with or without provider education)
- Community mobilization (with additional interventions)

¹⁵ Giovino GA, Novotny TE. *Tobacco Use*. Brownson RC, Remington PL, Davis JR (eds). Chronic Disease Epidemiology and Control. American Public Health Association. 1998;117–148.

¹⁶ National Cancer Institute. *Smoking-Tobacco Facts*. May, 2009. <http://www.cancer.gov/cancertopics/smoking>

¹⁷ Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. Olympia, WA. 2009.

¹⁸ Washington State Department of Health. *Tobacco Prevention and Control Program Progress Report*. March 2009. DOH Pub. 340-130.

¹⁹ Center for Disease Control and Prevention. *The Guide to Community Preventive Services – Tobacco*. May, 2009. <http://www.thecommunityguide.org/tobacco/index.html>

Alcohol

Goal 2: Reduce the impact of alcohol consumption on cancer incidence and death in Washington.

GOAL
2

- **Objective 2.1: By 2013, decrease the percentage of adolescents in grades 10 and 12 who report binge drinking in the past two weeks to 18% and 20%, respectively.**

Baseline: 21% Data Source: 2008 HYS.

Strategies

- Work in communities and schools to expand targeted prevention and awareness programs to youth.
- Collaborate with partners and key stakeholders to educate the public on the relationship between alcohol and cancer.
- Support new and existing public health and public safety programs that address alcohol consumption and abuse.
- Support the enforcement of laws prohibiting the sale of alcohol to minors and other public policies that discourage underage drinking.

- **Objective 2.2: By 2013, stabilize the percentage of adults who report heavy drinking at 6.1%**

Baseline: 6.1% Data Source: 2006 BRFSS

- **Objective 2.3: By 2013, stabilize the percentage of adults who report recent binge drinking at 15.8%.**

Baseline: 15.8% Data Source: 2006 BRFSS

Strategies

- Increase awareness of services available through the Department of Social and Health Services, Division of Behavioral Health and Recovery.
- Collaborate with partners and key stakeholders to educate the public on the relationship between alcohol and cancer.
- Support new and existing public health and public safety programs that address alcohol consumption and abuse.
- Promote screening and brief interventions for alcohol abuse in physicians' offices, clinics, schools, and emergency rooms.
- Support public policies that discourage alcohol consumption, such as increasing taxes on alcohol purchases.

Alcohol consumption increases the risk of some cancers, especially when used in combination with tobacco. For cancer prevention, alcohol should be consumed only in moderate amounts or not at all. Moderate alcohol consumption is defined as one drink per day for adult women and

two drinks for men. One drink of alcohol is considered a glass of wine, a bottle of beer, or a shot of liquor.

Scientific Evidence Linking Alcohol Consumption to Cancer

The United States Department of Health and Human Services (DHHS) lists alcohol as a known human carcinogen, but the extent of cancer risk is influenced by other factors.²⁰ Cancers commonly associated with alcohol use include cancer of the mouth, pharynx, larynx, esophagus, liver, colon/rectal, and breast.^{21, 22}

Burden of Alcohol Consumption

After several years in decline, the percentage of adults who reported binge drinking is on the rise. Currently, it is at 15% and climbing.²³ In 2004, the National Institute on Alcohol Abuse and Alcoholism redefined binge drinking as “a pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gram percent or above.”²⁴ The rate of heavy drinking among youth in Washington State has also risen dramatically since 2004. In 2008, nearly 20% of 10th and 11th grade students and 25% in 12th grade attending Washington public schools reported drinking more than five drinks on one occasion in the past two weeks.²⁵ Twenty-one percent of 10th graders reported high risk drinking (six or more days of drinking or more than two binges in the past thirty days).

Disparities

Consuming alcohol in more than moderate amounts or consuming five or more drinks on one occasion varies by age and gender. Younger men and women in Washington report this more often than older men and women. In addition, more men than women overall report drinking five or more drinks on one occasion. This association is consistent across age, racial, and ethnic groups. However, an equal proportion of men and women report drinking alcohol at higher than moderate amounts.

Larger percentages of American Indian and Alaska Native, white, and African American Washington adults reported binge drinking than Asians and Pacific Islanders. American Indians, Alaska Natives and whites (non-Hispanic) also reported more binge drinking than people of Hispanic origin. Rates of binge drinking were lower for those with a four-year college degree than among those with less education, even after adjusting for income, age, gender, and race and Hispanic origin.

Current Activities to Reduce the Impact of Alcohol Consumption

The Washington State Department of Social and Health Services (DSHS) Division of Behavioral Health and Recovery (DBHR) provide alcohol and substance abuse prevention and treatment services. The DBHR Substance Abuse Prevention Program aims to prevent alcohol, tobacco, and other drug use and abuse; reduce the negative consequences of substance abuse; and minimize future needs for chemical dependency treatment. DBHR Treatment Services are designed to provide a wide range of contracted, certified treatment services to indigent, low-income individuals and their families who are experiencing abuse and addiction problems with alcohol and other drugs. Services are designed to address the gender, age, culture, ethnicity, and sexual orientation of individuals and their families.

The “Start Talking Before They Start Drinking” campaign is, in part, an outgrowth of efforts by key federal agencies involved in alcohol prevention, research, education and treatment, to promote a more coordinated national effort to address underage drinking. The campaign features public service announcements, educational materials, and links to web sites with additional information. The goal of the campaign is to combat underage drinking and to educate parents, youth, and others on the issue of alcohol abuse. In Washington, there are a number of efforts in schools and communities and communities across the state, along with support from key state agencies such as DBHR and The Attorney General’s Office.

Crisis counseling and referral services are available through the Alcohol and Drug 24-Hour Help Line (see <http://www.adhl.org> for more information). Additional information about available services can be found at the Washington State Alcohol/Drug Clearinghouse (<http://clearinghouse.adhl.org>).

Gaps

More research is needed on the relationship between alcohol and cancer. Additional information and evidence is also needed on effective intervention approaches. These approaches are intended to increase awareness of alcohol as a risk factor for cancer, and to reduce heavy drinking, particularly among American Indians, Alaska Natives, young adults and adolescents.

Effective Interventions for Reducing Alcohol Abuse

The Centers for Disease Control and Prevention’s (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding interventions that communities, policymakers, and public health providers can employ to reduce excessive alcohol use. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention’s effectiveness. Examples of effective interventions include:

- Enhanced enforcement of laws prohibiting sales to minors
- Increasing alcohol taxes
- Regulation of alcohol outlet density
- Maintaining limits on days of sale

²⁰ U.S. Department of Health and Human Services, National Toxicology Program. *Report on Carcinogens*. Tenth Edition. Washington D.C. December 2002.

²¹ National Institute on Alcohol Abuse and Alcoholism. *Alcohol Alert*. No. 21 PH 345, July 1993. Maryland. <http://www.niaaa.nih.gov/publication/aa21.htm>.

²² World Cancer Research Fund, American Institute of Cancer Research. *Policy Action for Cancer Prevention*. 2009. <http://www.dietandcancerreport.org/>

²³ Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. Olympia, WA. 2006. < http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm.

²⁴ National Institute on Alcohol Abuse and Alcoholism. *Alcohol Research & Health*. Volume 28, Number 3, 2004-2005.

²⁵ Washington State Department of Health. *Healthy Youth Survey*. Olympia, WA. 2008. <http://www.doh.wa.gov/EHSPHL/hys/>

Nutrition, Physical Activity, and Obesity

Goal 3: Reduce the impact of nutrition, physical activity, and obesity on cancer incidence and death in Washington.

GOAL 3

- **Objective 3.1: By 2013, increase the percentage of youth and adults who eat fruits and vegetables at least five times a day to 30% and the percentage of students in grade 10 to 28%.**

Baseline: adults-27%, students-25% Data Source: 2006 BRFSS, 2008 HYS

Strategies

- Educate the public on the relationship between eating the recommended amount of fruits and vegetables and health.
- Increase access to fruits and vegetables for all residents of Washington through policy, environmental, and systems changes in schools, communities, and worksites.
- Support existing programs focused on increasing fruit and vegetable intake.

- **Objective 3.2: By 2013, increase the percentage of students in grade 10 who engage in at least 60 minutes of physical activity daily to 45%.**

Baseline: 43% Data Source: 2008 HYS.

Strategies

- Promote increased time requirement for physical activity during physical education classes in school.
- Educate teachers, students, and school administrators on the importance of physical activity in schools and their role in improving overall health.
- Create and improve opportunities for physical activities in communities and schools through policy, environmental, and systems change.
- Support the Safe Routes to Schools program.
- Support implementation of the Physical Activity and Health Essential Learning Requirements.

- **Objective 3.3: By 2013, increase the percentage of adults who meet physical activity recommendations (either 30+ minutes moderate activity 5+days a week or 20+ minutes vigorous activity 3+ days a week, or active at work) to 66%.**

Baseline: 62% Data Source: 2007 BRFSS

Strategies

- Support the development and implementation of statewide physical activity initiatives that employ effective interventions.
- Create and improve opportunities for physical activities in communities by providing safe environments through policy, environmental, and systems change.
- Support the development of polices at worksites that increase physical activity.

● Objective 3.4: By 2013, slow the rate of increase in obesity.

Baseline: 4.41% Data Source: 2006 BRFSS

Strategies

- Support the implementation of the Washington State Nutrition and Physical Activity Plan.
- Support public health approaches to increasing access to and availability of obesity treatment.
- Support efforts to increase access to healthy food and beverage choices and physical activity opportunities in workplaces and other institutional settings and reduce access to less healthy foods.
- Support community-wide campaigns to promote healthy choices for food and beverages and physical activity.
- Improve overall access to healthier foods and food outlets in communities through policy, environmental, and systems change.

Nutrition, physical activity, and obesity are interrelated lifestyle factors that influence individual risk for a variety of chronic diseases and conditions. Obese and overweight individuals are at an increased risk for many health problems, including several types of cancer, cardiovascular diseases, hypertension, diabetes, and osteoporosis.²⁶

The development of obesity is associated with dietary and physical activity patterns. Although many studies have established an association between diet, physical activity, obesity and an altered risk of some cancers, the reasons for these associations are not certain. However, eating a healthy diet, participating in regular physical activity, and maintaining a healthy body weight are widely accepted as important strategies for maintaining or improving overall health.²⁷

In 1998, the National Heart, Lung, and Blood Institute of the National Institutes of Health established clinical guidelines defining overweight and obesity. According to these guidelines, overweight in adults means having a body mass index (BMI) from 25 to 29.9. Obesity is having a BMI of 30 or more. Overweight in children and adolescents is having a BMI greater than the 85th percentile for age and sex. Obesity in children and adolescents is as having a BMI greater than or equal to the 95th percentile for age and sex based on Centers for Disease Control and Prevention (CDC) standardized growth charts.

Scientific Evidence Linking Nutrition, Physical Activity, and Obesity to Cancer

Obesity has been associated with breast, colon, endometrial, kidney and esophagus cancers, and also may increase the risk for cancer of the gall bladder, pancreas, and ovaries.²⁸ A recent study by the American Cancer Society (ACS) suggests that nationally, being obese or overweight could account for as many as 20% of cancer deaths in women and 14% in men²⁹. In addition, obesity is closely linked with dietary risk factors and physical inactivity, both of which may increase the risk of some cancers. In fact, the International Agency for Research on Cancer estimates that 45% of colorectal cancers are preventable through diet, physical activity and weight maintenance.³⁰

Many studies have found an association between eating a healthy diet and a reduced risk of cancer. A diet low in saturated fats and high in fruits, vegetables and whole grains, is

consistently associated with a reduced risk of many cancers, including cancer of the mouth, pharynx, larynx, esophagus, lung, stomach, colon, rectum, bladder, and cervix. Additional evidence consistently links higher consumption of fruits and vegetables to lower rates of cancer.³¹

Studies have shown that foods containing dietary fiber (whole grains) may have a cancer-protective effect. Consumption of whole grains is associated with decreased risk for cancer of the colon, breast, endometrium, esophagus, kidney, and other organs.^{32, 33} In addition, consuming red meat and animal fat consumption has been associated with an increased risk for some cancers, specifically cancer of the colon.³¹ Breast feeding reduces the risk of breast cancer; being breast fed reduces the risk of obesity.³³

Regular physical activity has been associated with reductions in death from all causes, as well as the risk of developing and dying from some cancers. Physical activity includes normal daily activities such as walking, climbing stairs, or doing yard work, as well as recreational activities and other more structured forms of exercise.

Numerous studies have investigated the association between physical activity and cancer, and have found physical activity may reduce the risk for breast and colon cancer. According to the International Agency for Research on Cancer, an estimated 11% to 15% of breast and colon cancers may be due to a lack of physical activity.³⁴

Burden of Obesity

Adult obesity in Washington has more than doubled since 1990. In 2006, about 60% of adults in Washington were either overweight (36%) or obese (24%). National data shows a similar increase in obesity across the country. Young people are also experiencing high rates of obesity. In 2008, 11% of 10th graders in Washington were obese and 14% were overweight. The steady rise in obesity has researchers setting benchmarks to slow the rate of increase rather than target the rate itself.³⁵

Disparities³⁶

According to the “The Health of Washington State,” the prevalence of obesity in Washington is nearly equal among men and women. Disparities are seen by race and ethnicity. African Americans, American Indians and Alaska Natives have the highest prevalence of obesity in Washington. Asian and Pacific Islanders have the lowest prevalence of obesity according to the same data, with fewer than 13% being obese.

Education and annual income are also associated with obesity in Washington. College graduates have a much lower prevalence of obesity than individuals that have not graduated from college (approximately 17% and 28% respectively), and the prevalence of obesity is lower for those with an annual income over \$50,000 (about 19%) than those with incomes less than \$20,000 (28%). The highest levels of fruit and vegetable consumption are in the oldest segment of the population, and women in all age groups were more likely than men to report eating five or more servings of fruits and vegetables per day. However, younger adults and men were more likely to meet recommendations for physical activity.

In addition to age and gender, level of education also has an impact on physical activity and fruit and vegetable intake in Washington adults. As educational level increases, the percent of adults consuming fruit and vegetables at least five times daily and percent of adults meeting physical activity recommendations also increases.

Current Activities to Reduce Obesity

The Washington State Department of Health, through a cooperative agreement with the CDC and in collaboration with multiple state partners, developed a state plan around physical activity and nutrition in 2003 and updated the plan in 2008. The plan focuses on policy and environmental strategies to increase access to healthy foods, increase physical activity, and decrease the prevalence of obesity in the state. State partners can report activities implemented in relation to the plan on the Partners in Action website (<http://depts.washington.edu/waaction/>).

There are several statewide programs that promote a healthy diet and physical activity among Washington residents.

The Women, Infants and Children Supplemental Food Program (WIC) addresses the dietary needs of pregnant women, infants, and young children. This program provides counseling as well as food, and also promotes breastfeeding.

Supplemental Nutrition Assistance Program-Nutrition Education (SNAP-Ed) enhances understanding of nutrition and healthy eating for low-income residents that qualify for financial assistance.

The Fruits and Veggies-More Matters program is a national campaign that promotes the consumption of vegetables and fruits and encourages collaboration between private industry, public health, and produce advocates.

The Nutrition, Physical Activity and Obesity Program offer two projects that address obesity prevention: Healthy Communities and Active Community Environments, which support community-level policy and environmental change.

More information on all of these programs can be obtained from the Washington State Department of Health website at: <http://www.doh.wa.gov/>.

Many other statewide organizations are also focused on addressing physical activity, nutrition, and obesity. The Washington Coalition for Promoting Physical Activity (www.beactive.org) promotes awareness statewide of physical activity and a more active lifestyle. The Washington Access to Health Foods Coalition (<http://www.accesstohealthyfoods.org/>) works to support healthier food policies for schools, worksites, and communities. The Childhood Obesity Prevention Coalition uses strategies to change statewide policy to reduce childhood obesity in Washington.

The University of Washington Center for Public Health Nutrition funds community projects that focus on increasing healthy activities and dietary intake, and supports other agencies and organizations with research and technical assistance. The Alliance for Reducing Cancer

Northwest at the University of Washington Health Promotion Research Center is a collaborative team of cancer prevention and control experts. The purpose of the alliance is to design, conduct, and evaluate community-based research to fill gaps in current knowledge. The CDC and the National Cancer Institute (NCI) fund the alliance. The Washington Health Foundation, with its Healthiest State campaign, works to address a variety of health indicators statewide, including obesity.

The Breastfeeding Coalition of Washington is a statewide coalition comprised of local coalitions working together to promote, protect and support breastfeeding as a vital part of the health and development of children and families. Member coalitions and the state Steering Committees are comprised of health professionals, parents, and representatives from other allied organizations. The BCW strives to increase initiation, duration and exclusivity rates of breastfeeding through breastfeeding promotion activities, education, information and resources.

Gaps

More research needs to be done on consumer attitudes toward eating fruits and vegetables and to show how policy, environmental, and systems change can lower obesity rates. There are no statewide standards for the types of activities students do for physical education or for the length of time that students should be physically active during physical education classes. With no mandatory, standardized criteria for providing healthy foods in schools, disparities exist in access to healthy foods for students across the state. The capacity of organizations and health departments to implement policy, environmental, and systems changes that reduce the impact of an unhealthy diet, physical inactivity, and obesity on cancer varies significantly. Although there are various efforts to promote physical activity at the state and community level, there are no comprehensive, statewide programs.

Effective Interventions to Reduce Poor Nutrition, Physical Inactivity, and Obesity

The Centers for Disease Control and Prevention's (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding interventions that communities, policymakers, and public health providers can employ to reduce poor nutrition, physical inactivity, and obesity in children, adolescents, and adults. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention's effectiveness. Examples of effective interventions include:

- Community and Street Scale Urban Land Use Designs (including community gardens)
- Creation of or enhanced access to places for physical activity combined with informational outreach activities
- Worksite programs and community-wide campaigns
- Individually-adapted health behavior change programs
- Social support interventions in community settings
- Multi-component counseling to affect and maintain weight loss
- Behavioral interventions to reduce screen time
- Point-of-decision prompts to use stairs
- Enhanced school-based physical education programs

- ²⁶ National Heart, Lung, and Blood Institute. *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults*. 1998. http://www.nhlbi.nih.gov/guidelines/obesity/ob_gdlns.pdf
- ²⁷ Bianchini F, Vainio H. *Weight control and physical activity*. IARC handbooks of cancer prevention. Volume 6. Lyon, France: IARC Press, 2002.
- ²⁸ National Cancer Institute. *Obesity and Cancer: Questions and Answers*. March, 2004. <http://www.cancer.gov/cancertopics/factsheet/Risk/obesity>.
- ²⁹ Calle E., Rodriguez C, Walker-Thurmond K, Thun M. *Overweight, Obesity, and Mortality from cancer in a Prospectively Studied Cohort of U.S. Adults*. *N Engl J Med*. 2003; 248(17):1625-38.
- ³⁰ U.S. Department of Health and Human Services. *The Surgeon General's call to action to prevent and decrease overweight and obesity*. Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General. 2001. Available from: US GPO, Washington.
- ³¹ National Cancer Institute. *5 A Day for Better Health Program Evaluation Report: Evidence*. http://dcccps.nci.nih.gov/5ad_2_evi.html.
- ³² American Cancer Society. *Diet and Physical Activity: What's the Cancer Connection*. October, 2006. http://www.cancer.org/docroot/PED/content/PED_3_1x_Link_Between_Lifestyle_and_CancerMarch03.asp.
- ³³ World Cancer Fund, American Institute for Cancer Research. *Policy and Action for Cancer Prevention*. 2007. <http://www.wcrf-uk.org/>.
- ³⁴ International Agency for Research on Cancer. 2002. *IARC Handbooks of Cancer Prevention: Weight Control and Physical Activity*. Lyon, France: IARC Press.
- ³⁵ Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. Olympia, WA. 2009. http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm
- ³⁶ Washington State Department of Health. *The Health of Washington State*. 2007. <http://www.doh.wa.gov/hws/HWS2007.htm>.

Environmental Carcinogens

Goal 4: Reduce the impact of environmental carcinogens on cancer incidence and death in Washington.

GOAL
4

- **Objective 4.1: By 2013, decrease population exposure to soil that contains more than 20 parts per billion (ppb) of arsenic.**

Baseline: Process Measure

Strategies

- Support expanded soil sampling in regions where arsenic contamination is likely.
- Support research to better characterize exposure to arsenic resulting from living on and working in contaminated soil.
- Provide support for the development and distribution of educational materials regarding ways to minimize exposure to arsenic-contaminated soil.

- **Objective 4.2: By 2013, decrease population exposure to drinking water that contains more than 10 parts per billion (ppb) of arsenic.**

Baseline: Process Measure

Strategies

- Support funding for distribution of educational material on the occurrence of arsenic in drinking water, the associated cancer risk, and the available options to reduce exposure.
- Work with the local health departments to distribute educational material to private well owners.
- Support water testing in areas with known or potential arsenic contamination of groundwater, especially in small water systems and private wells.

- **Objective 4.3: By 2013, increase awareness of the hazards of diesel exhaust.**

Baseline: Process Measure

Strategies

- Support local government efforts to retrofit their existing vehicles and equipment with clean diesel technology and increase their use of clean sulfur fuel.
- Support private sector efforts to retrofit their existing vehicles and equipment with clean diesel technology and increase their use of clean sulfur fuel.
- Advocate for legislation to establish programs and create incentives that support retrofitting older (2007 and before) diesel vehicles and equipment and utilization of low sulfur fuel.
- Encourage existing coalitions in their efforts to bring clean diesel technology to Washington.
- Support campaigns to reduce vehicle idling, with a focused effort at schools, ferry terminals and other high-population-density areas.
- Attempt to estimate the cancer burden attributable to diesel exhaust and assess the relative burden of exposure among relevant minorities and income groups.

● Objective 4.4: By 2013, increase awareness of the hazards of wood smoke.

Baseline: Process Measure

Strategies

- Support Ecology and the local clean air agencies efforts to change-out uncertified wood stoves.
- Support education campaigns to inform people on clean burning techniques when heating with wood.
- Support educational campaigns to increase understanding of the importance of adhering to burn bans.
- Support research and programs that better characterize exposure to wood smoke among Washington residents.

The International Agency for Research on Cancer (IARC) evaluates the cancer risk specific chemicals are to people; based upon well established science. A number of chemicals in the environment are clearly linked to an increased risk of cancer in people. In this Plan, “environmental carcinogens” refers to those chemicals and physical agents that IARC has evaluated as carcinogenic or probably carcinogenic to humans.

It is difficult to measure the cancer risk posed by these chemicals, because it is difficult to measure exposure. Human exposure to any given environmental carcinogen is highly variable and depends on a number of factors including:

- The concentration of the carcinogen in the environment
- Individual behaviors (e.g., location of residence, frequency of contact with soil)
- How the carcinogen is taken into the body

Furthermore, each person’s exposure to environmental carcinogens can vary greatly over a lifetime. For these reasons, it is not possible to provide a reliable estimate of the cancer burden associated with any particular environmental carcinogen in Washington State.

Two factors were used to determine which environmental carcinogens to address in this plan. First, only chemicals that IARC had evaluated and concluded were carcinogenic or probably carcinogenic to humans were considered. Second, despite not having precise estimates of exposure, the potential for exposure to a large population was considered. Arsenic, diesel exhaust, wood smoke, and radon were identified as the known or probable environmental carcinogens with the greatest potential impact on public health in Washington. Radon was not considered in this plan because there were limited resources available to address the objectives outlined in the 2009-2013 Plan. However, exposure to radon is still a concern and will be placed in the emerging issues section as an environmental exposure of concern for consideration for future interventions and activities.

Disparities

Many studies have examined the issues of environmental justice; that is, whether and to what extent minorities and those who are disenfranchised suffer disproportionate environmental exposures. The first specific issue studied regarded the location of hazardous waste incinerators and chemical manufacturing plants. The Washington State Board of Health has conducted a

comprehensive study of environmental justice in Washington.³⁷ While there is little definitive data regarding the extent of this problem, a 1995 study by the Washington State Department of Ecology found that there are a greater number of industrial facilities in low-income and minority communities, which may be resulting in higher exposures among these residents.³⁸ There are also concerns that since a higher proportion of minority and low-income residents live in urban areas, these groups may be exposed to higher than average levels of diesel exhaust. While data does not exist to assess the extent of environmental justice issues regarding the exposures discussed in this chapter, one of the recommendations is to conduct such an analysis for exposure to diesel exhaust.

Arsenic

Arsenic has been classified by IARC and the United States Environmental Protection Agency (EPA) as carcinogenic to humans and has been associated with lung, bladder, skin, liver, and kidney cancer.^{39,40} There are two potentially significant sources of arsenic in the environment: contaminated soil and contaminated drinking water. Outdoor wood structures (such as playground equipment and decks) built using wood treated with chromated copper arsenate (CCA) were a priority in the last Plan, but their use in outdoor wood structures has been phased out. Although arsenic will no longer be found in new outdoor wood structures, it will still persist in some older construction (some outdoor playground equipment and decks) where arsenic that is present at the surface and interior of the wood will continue to leach to the surface for years or decades as a source of exposure.

Soils over large areas of Washington State are contaminated by arsenic as a result of past emissions from smelters and from the historic use of the pesticide lead-arsenate in agricultural areas. For smelter-contaminated soil, arsenic concentrations tend to be higher in areas closer to the location of the smokestack and along the paths of prevailing winds. Economic factors have promoted conversion of agricultural and industrial properties into residential developments and schools, resulting in more people living in areas with contaminated soils.

Arsenic can also leach from naturally occurring subsurface geologic formations into aquifers used for public and private water supplies. In October 2001, the Environmental Protection Agency (EPA) lowered the maximum contaminant level (MCL) for public water supplies from 50 to 10 parts per billion (ppb) effective in 2006.⁴¹ While this revised MCL will apply to larger public water supplies (Group A), private wells and most smaller public water systems (Group B) in Washington are not subject to this regulation.

Potential for Exposure

The Washington State Department of Health (DOH) estimates that approximately one million people in Washington live in areas with more than 20 ppb arsenic in the soil (the state Department of Ecology's health-based hazardous waste clean-up level). These people may be exposed via ingestion (the predominant exposure pathway) and/or inhalation of soil and dust particles. Young children have the greatest potential for exposure because of their close and more frequent contact with soil and dust outside and inside the home, and their frequent hand-to-mouth contact. Gardeners, yard maintenance, and construction workers are also more likely to ingest or inhale significant amounts of soil.

Approximately 5.7 million residents get water in their homes from more than 17,000 public water systems. Another one million Washington residents get water from individual private wells.⁴² Some people are exposed to ground water containing more than 10 ppb arsenic that is found in many locations across Washington. Based on data from 1999 to 2009, the Department of Health estimates that approximately 2.5% of Group A systems might exceed 10 ppb arsenic.⁴³ Not all of these systems are regulated under the new rule. The department does not have information to estimate the number of private wells that might exceed 10 ppb arsenic but one study by the U.S. Geologic Survey found that water from about 9% of a small sample of wells in Washington had more than 10 ppb arsenic.⁴⁴ Information on arsenic in Group B systems is limited, but best estimates indicate that percentage of Group B systems above 10 ppb may be similar to those of private wells.

Current Activities

Limited soil sampling has been conducted by private parties and by federal, state, tribal and local governments. On June 30, 2003, the Area-Wide Soil Contamination Task Force released its report containing advice on ways to address economic, liability, and public health issues related to widespread arsenic-contaminated soil.⁴⁵

Larger public water systems are required to comply with the new, more stringent federal drinking water standard for arsenic, which lowered the. Water systems not covered by the Safe Drinking Water Act (i.e., systems with fewer than 15 service connections) are not currently required to meet this standard.⁴⁶ Private wells are exempt from federal and state regulations, although newly constructed wells in some counties are not approved if the water has more than 10 ppb arsenic.

At the Department of Health, the Office of Drinking Water works to assure safe and reliable drinking water in Washington State. This is done through training and education on water system management, enforcement of drinking water standards and evaluation of water system performance, as well as information on potential water contaminants including arsenic.

The Department of Ecology works with communities, local health jurisdictions, and other government agencies to reduce exposure to polluted soils in several parts of Washington. In cooperation with the Department of Health, Department of Social and Health Services, and the Office of the Superintendent of Public Instruction, the Department of Ecology implements the Soil Safety Program. This program assists schools and childcare centers west of the Cascade Mountains to reduce the potential for children's exposure to area-wide soil contamination. The Department of Ecology also provides soil testing and resources for schools, childcares, and other areas where children play.

Gaps

For many areas in Washington, arsenic concentrations in soil are not known. Several local health jurisdictions in Washington State have developed or compiled educational materials, but these may not be available statewide.

Many small water supplies and most private wells have not been tested for arsenic. Educational materials regarding water testing and options for treatment to reduce arsenic levels need to be further developed and distributed.

Diesel Exhaust

IARC has classified diesel exhaust as probably carcinogenic to humans, and has been associated with lung and bladder cancer.⁴⁷ Diesel exhaust comes from combustion of diesel fuel by trucks, buses, boats, ships, cargo handling equipment, locomotives, construction and agricultural equipment and stationary power generators. It is a combination of fine particulate matter, as well as more than 40 substances that are listed as hazardous pollutants by the EPA.⁴⁸ In a 2008 “Washington State Toxic Air Pollutant Priorities Study,” the Department of Ecology ranked 178 air toxic pollutants in terms of their risk potential. Diesel exhaust became their highest priority, because of its potential cancer risk.⁴⁹

The EPA will be phasing in regulations mandating both new pollution technology and the use of low-sulfur fuels for newly built on-road heavy-duty vehicles (such as semi-trucks), locomotives, ships, and off-road construction equipment. However, these regulations generally won’t apply to older vehicles.

A 2008 research investigation of over 30,000 truck drivers and exposure to diesel exhaust provided further evidence of the link between diesel exhaust exposure and the risk of lung cancer.⁵⁰

Potential for Exposure

People are exposed to diesel exhaust when they breathe contaminated air. The highest exposures are most likely to occur among people who drive on, live, or work closest to freeways or who live and work in urban areas.^{51, 52} The Department of Ecology estimates that more than four million people live near busy urban area roads in Washington. The amount of diesel used in Washington has increased by 200% since 1981.^{53, 54}

Current Activities

A large number of projects funded with grants from the Department of Ecology, the EPA and local clean air agencies are underway in Washington to reduce diesel emission. Some examples include:

- The Department of Ecology has provided funding to cities, counties, ports and transit authorities to retrofit their on-road diesel fleets with clean diesel technology. This technology will also allow the fleets to use cleaner burning ultra-low sulfur fuel. About 1200 vehicles have been retrofitted to date.
- About 6,300 school buses have been retrofitted by Ecology and seven local clean air agencies.
- Over 40 of the oldest and dirtiest school buses are being scrapped and replaced with new clean running buses.

- Over 500 pieces of non-road cargo handling equipment are being retrofitted with exhaust clean up devices or repowered with cleaner engines at ports in the Seattle/Tacoma and Portland/Vancouver region.
- Efforts are underway to provide on-road port drayage trucks with exhaust clean up retrofits.
- Electronic control modules will be provided to public utility vehicles to power emergency road signs and power tools off batteries rather than run vehicle engines for that purpose.
- Idling reducing engine pre-heaters and/or cabin heaters will be provided to school and transit buses allowing them to shut off the main engine when engine and cab heat is needed.
- Ten short haul or switchyard locomotives owned by Tacoma Rail have been retrofitted with idling reducing Automatic Engine Start/Stop systems (AESS).
- Eleven Sound Transit - *Sounder* commuter trains now have idling reducing AESS systems.
- *Sounder* Head End Power locomotives that provide power for commuter cabs now plug into electrical way side power units at the Tacoma layover yard rather than idle all night and all weekend. Additional wayside power units are planned for the Everett and Lakewood *Sounder* stations.
- Installation of 76 truck electrified parking spaces at two truck stops to provide power so trucks no longer have to run their engines at night.
- Investments in shore power technology will enable two cruise and cargo ships to have power while docked at the Port of Seattle and Tacoma, so ships no longer have to run their diesel engines for power.
- Starting in 2009, the state Department of Transportation will use 20 percent biodiesel in all feasible applications.^{55, 56}

Gaps

The new EPA regulations do not apply to the large, existing fleet of pre-2007 model-year on-road heavy-duty commercial vehicles. Diesel on-road engines last for over a million miles and are rebuilt multiple times, therefore these vehicles are expected to continue to be a major source of diesel emissions for many years.

Clean up of the existing publicly owned fleet is nearly complete. However, the public fleet comprises only 11% of the older existing fleet in Washington, with the privately owned vehicles and equipment comprising the remaining 89% of the fleet.⁵⁷ Without programs or requirements

to address the privately owned pre-2007 model year fleet, Washingtonians will continue to be adversely affected by emissions from these diesel engines

Wood Smoke

IARC evaluated household combustion of solid fuel in 2008. It found that indoor emission of biomass fuel (primarily wood) was probably carcinogenic to humans and was associated with lung cancer.⁵⁸

The Cancer Prevention II study of the American Cancer Society (ACS) found that fine particulate matter (one of the major constituents of wood smoke) is associated with lung cancer.⁵⁹ Wood smoke is a mixture of gases and fine particles and contains many toxic substances, some of which are known or probable human carcinogens. The fine particles that are released carry other toxic substances deep into the lungs when a person breathes in the wood smoke.

The Department of Ecology has ranked residential wood burning as its second highest priority toxic air pollutant based on its cancer and cardiopulmonary risks in their recent air toxics ranking study.⁴⁹ Indoor emissions of wood smoke come from wood burning devices such as wood stoves and fireplaces. There are approximately 300,000 uncertified wood stoves and 700,000 fireplaces in Washington.⁶⁰ Uncertified stoves and fireplaces emit substantially more pollutants than a gas, propane, pellet, or certified wood stove. For example, an uncertified wood stove emits about three times and a fireplace about twenty times the fine particle pollution of a certified wood stove.⁶¹ The potential for exposure can be high since people are exposed to wood smoke both inside and outside of the home. Additionally, fine smoke particles can readily travel indoors, especially in draftier homes.

Potential for Exposure

Use of wood for heating is common in Washington State. About 40% of households report they use a wood stove, fireplace insert, or wood burning fireplace for heat. About 40% of woodstove burning households and 10% of fireplace burning households report they use their equipment on a daily basis during the heating season. Of the Washington households that use a wood stove, 12.6% report their stove is uncertified.⁶² Fifty-six percent of Washington's fine particle pollution during the winter months comes from emissions from wood stoves and fireplaces.

Current Activities

In 2007, the Washington State Legislature found that, in some communities, wood smoke emissions of fine particles were at levels that might not comply with federal standards or adequately protect public health. The Department of Ecology was directed to establish a work group to address these issues. Three work group recommendations have been recently enacted into legislation:

- Setting new lower more protective levels for Department of Ecology or the local clean air agencies to call burn bans.
- Adding a question to the residential real estate disclosure form about whether wood burning stoves or inserts are on the property, and if they are certified.
- Giving Ecology or the local clean air agency authority to prohibit the use of uncertified wood stoves and inserts under certain circumstances, in areas not meeting federal standards for fine particles.

People can lower their exposure to wood smoke by switching from an uncertified wood stove to a cleaner burning stove such as an electric, gas, propane, pellet, or certified wood stove. In the 2009-2011 biennium the Washington State Legislature assigned \$1 million in a grant program to fund regional wood stove change-outs programs for 2009-2011. Two awards were made, \$650,000 to Puget Sound Clean Air Agency and \$300,000 to Yakima Regional Clean Air Agency. The Legislature also provided \$240,000 toward the development of a wood stove education and outreach campaign. Contracted services will be sought to research the most effective messages for the diverse audiences in the state and to guide the development of campaign messaging.

Gaps

Wood smoke is culturally linked with pleasant associations of home and family, and is not generally perceived as hazardous despite its links to lung cancer and other respiratory diseases. Washington residents are often unaware of the health and economic benefits of changing out their uncertified wood stoves.

³⁷ Washington State Board of Health. *Final Report State Board of Health Priority: Environmental Justice*. Washington State Department of Health. June, 2001. <http://www.doh.wa.gov/sboh/Pubs/2001EJReport.pdf>.

³⁸ Hazardous Waste and Toxics Reduction Program. *A Study of Environmental Equity in Washington State*. Washington State Department of Ecology. October, 1995. <http://www.ecy.wa.gov/pubs/95413.pdf>.

³⁹ International Agency for Research on Cancer. *Some Metals and Metallic Compounds. IARC monograph on the evaluation of carcinogenic risks to humans*. Vol. 23. Lyons: IARC, 1980

⁴⁰ United States Environmental Protection Agency. *Integrated Risk Information System, IRIS Quickview, Arsenic, Inorganic*. http://cfpub.epa.gov/iris/quickview.cfm?substance_nmbr=0278

⁴¹ U.S. Environmental Protection Agency. *Arsenic in Drinking Water. Ground Water and Drinking Water*. January, 2001. <http://www.epa.gov/safewater/arsenic.html>.

⁴² Washington State Department of Health. *The Health of Washington State – A statewide assessment of health status, health risks, and health care services*. Drinking Water Quality. July 2002.

⁴³ Maxfield, M. Washington State Department of Health. Office of Drinking Water. 2003.

⁴⁴ United States Geologic Survey. *Trace Elements National Synthesis Project*. 2000. Accessed 08/17/09. <http://water.usgs.gov/nawqa/trace/arsenic/>

⁴⁵ Washington State Department of Ecology. *Area-Wide Soil Contamination Task Force Report*. June 30, 2003. http://www.ecy.wa.gov/programs/tcp/area_wide/Final-Report/index.htm

⁴⁶ U.S. Environmental Protection Agency. Safe Drinking Water Act. Understanding the Safe Drinking Water Act. December, 1999. <http://www.gov.epa.gov/safewater/sdwa/understand.pdf>.

⁴⁷ International Agency for Research on Cancer. *Diesel and Gasoline Engine Exhaust and Some Nitroarenes. IARC monograph on the evaluation of carcinogenic risks to humans*. Lyon: IARC, 1989. Vol. 45.

⁴⁸ California Environmental Protection Agency. *For the Proposed Identification of Diesel Exhaust as a Toxic Air Pollutant Part B: Health Risk Assessment for Diesel Exhaust*. Office of Environmental Health Hazard Assessment. Air Toxicology and Epidemiology Section, May 1998.

⁴⁹ Kadlec, M. *Washington State Toxic Air Pollutants Priorities Study*. Washington Department of Ecology, Air Quality Program. Pub. No. 08-02-030. November 12, 2008 <http://www.ecy.wa.gov/biblio/0802030.html>

⁵⁰ E.. Garshick, F. Laden, J.E. Hart, B. R. M.E., Davis, E.A. Eisen, T.J., Smieth. *Lung Cancer and Vehicle Exhaust in Trucking Industry Workers*. Environ. 2008. Health Perspect. 116:1327-1332 or Doi:10.1289/dhp.11293

⁵¹ Korenstein S, Piazza B. *An exposure assessment of PM10 from a major highway interchange: are children in nearby schools at risk?*. J Environ Health 2003;65(2):9-17.

⁵² Brauer M, Hoek G van Vliet P, Meliefste K, Fischer P, et al. *Estimating long-term average*

particulate air pollution concentrations: application of traffic indicators and geographic information systems. Epidemiology. 2003; 14(2):228-39.

⁵³ Washington State Department of Health. *The Health of Washington State – A statewide assessment of health status, health risks, and health care services.* Outdoor Ambient Air Quality. July 2002.

⁵⁴ Washington State Department of Ecology. *Diesel Particulate Emission Reduction Strategy for Washington State.* 2006. <http://www.ecy.wa.gov/biblio/0602022.html>

⁵⁵ Washington Department of Ecology – Air Quality Program. *Diesel Particulate Emission Reduction Strategy for Washington State.* pg 10, publication no. 06-02-022, December 2006. <http://www.ecy.wa.gov/pubs/0602022.pdf>

⁵⁶ Washington Department of Ecology. *Focus on Reducing Engine Idling at Truck Stops and Focus on Reducing Locomotive Idling at Switchyards.* <http://www.ecy.wa.gov/pubs/0502025.pdf> and <http://www.ecy.wa.gov/pubs/0702012.pdf>

⁵⁷ Washington Department of Ecology. *Diesel Particulate Emission Reduction Strategy for Washington State.* pg 26. Air Quality Program, publication no. 06-02-022, December 2006. <http://www.ecy.wa.gov/pubs/0602022.pdf>

⁵⁸ International Agency for Research on Cancer (IARC). *Indoor Emissions of Biomass Fuel. IARC Monograph on the Evaluation of the Carcinogenic Risk to Humans.* September 10, 2008. <http://monographs.iarc.fr/ENG/Meetings/95-coal-biomass.pdf>

⁵⁹ Pope CA, II, Burnett RT, Thun MJ, Calle EE, Krewski D, Ito K. et al. *Lung cancer, cardiopulmonary mortality, and long term exposure to fine particulate air pollution.* JAMA 287:1132-1141. 2002. <http://jama.ama-assn.org/cgi/content/abstract/287/9/1132>

⁶⁰ Washington State Department of Ecology - Air Quality Program. *Washington State Base Year 2005 Emissions Inventory.*

⁶¹ U.S. Environmental Protection Agency. *Relative Emission of Fine Particles.* September 10, 2008. <http://www.epa.gov/woodstoves/refp.html>

⁶² Washington State Department of Health. *Washington State Behavioral Risk Factor Surveillance System.* Olympia, WA. 2007. http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm

Human Papillomavirus (HPV)

Goal 5: Reduce the impact of infectious agents on cancer incidence and death in Washington.

- **Objective 5.1: By 2013, establish a baseline to measure immunization rates among adolescents 11-18 years who are fully immunized against HPV.**

Data source to be established

Strategies

- Develop system to track immunization rates at the state level.
- Support the Immunization and CHILD Profile Program.
- Support systems and programs that create awareness of HPV and the HPV vaccine.
- Support the reinstatement of the HPV vaccine to the Universal Childhood Vaccine Program.

Genital human papillomavirus (HPV) is the most common sexually transmitted infection (STI). Out of the approximately 130 types of HPV, there are 30 to 40 types of HPV that infect the genital area, including the skin of the penis, vulva (area outside the vagina), anus, and the linings of the vagina, cervix, and rectum. Most people who become infected with HPV do not show signs or symptoms. HPV often goes away without any treatment after a couple of years. For these reasons, people who become infected with HPV may not know that they have it and could pass it on to others.⁶³

A person can have HPV even if years have passed since he or she had sex. Most infected persons do not realize they are infected or that they are passing the virus to a sex partner. HPV is transmitted by direct skin-to-skin contact with a person that has HPV. Transmission is usually from vaginal, oral, or anal sexual contact and can occur whether or not warts or other symptoms are present.⁶⁴ Therefore, HPV can be transmitted between a man and a woman, women who partner with women, or men who partner with men.⁶⁵

Very rarely, a pregnant woman with genital HPV can pass HPV to her baby during vaginal delivery. In these cases, the child may develop warts in the throat or voice box – a condition called recurrent respiratory papillomatosis (RRP).

If a high-risk HPV infection is *not* cleared by the immune system, it can linger for many years and turn abnormal cells into cancer over time. About 10% of women with high-risk HPV on their cervix will develop long-lasting HPV infections that put them at risk for cervical cancer. Similarly, when high-risk HPV lingers and infects the cells of the penis, anus, vulva, or vagina, it can cause cancer in those areas. HPV in the mouth is also a strong risk factor for larynx and oropharyngeal cancer (cancer that forms in the middle part of the throat and includes the soft palate, the base of the tongue, and the tonsils).⁶⁶

Burden of HPV

Approximately 20 million people in the United States (U.S) are currently infected with HPV, and another 6.2 million people become newly infected each year. At least 50% of sexually active men and women acquire genital HPV infection at some point in their lives. Some estimates go up to 85% or higher.⁶⁷

Certain populations may be at higher risk for HPV-related cancers, such as men who have sex with men and individuals with weak immune systems (including those who have HIV/AIDS).⁶³

People with cervical cancer do not have symptoms until it is quite advanced. For this reason it is important for women to get screened regularly for cervical cancer. The National Cancer Institute estimates that, 11,270 women will be diagnosed with cervical cancer and in the U.S. in 2009. In Washington, 244 cases of cervical cancer were diagnosed with 69 deaths in 2006, the latest date for which data are available.⁶⁸

Human Papillomavirus (HPV) Vaccine

In 2007, a new HPV vaccine was marketed to protect against four major types of HPV. Two types cause about 70% of cervical cancer and two types cause about 90% of genital warts. The HPV vaccine can prevent most genital warts and most cases of cervical cancer. Protection provided by the HPV vaccine is given as a three-dose series, and is expected to be long-lasting. However, vaccinated women still need cervical cancer screening because the vaccine does not protect against all HPV types that cause cervical cancer.

The HPV vaccine is routinely recommended for girls 11 to 12 years of age. Doctors may give it to girls as young as 9 years. The vaccine can prevent almost 100% of disease caused by the four types of HPV if given before a girl's first sexual activity or contact. The vaccine is also recommended for girls and women 13 to 26 years of age that did not receive this vaccine when they were younger. However, if a girl or woman is already infected with HPV, the vaccine will not prevent disease.⁶⁹

Current Activities to Reduce HPV Infection⁶⁹

The Washington State Department of Health's Immunization and CHILD Profile Program obtains and distributes the HPV vaccine in Washington State. The HPV vaccine became a part of Washington's Universal Childhood Vaccine Program in May of 2007. Through the Immunization Program, the HPV vaccine was available free of charge in every county in the state. Ninety-one percent of all non-hospital providers enrolled in the childhood vaccine program provide the HPV vaccine to their patients.

Between May of 2007 and August 2008, 276,350 doses of the HPV vaccine were distributed in Washington. This was enough vaccine to immunize 92,117 adolescent females for the full three dose series. The number of reproductive health clinics, women's health centers and OB/GYN providers participating in the childhood vaccine program increased from 3 to 47 during this time. This significantly increased access to vaccination services for adolescent females.

Gaps^{63, 67}

Washington State has been a “universal vaccine purchase state,” for the last 14 years. That means childhood vaccines have been purchased with state and federal funding and all vaccines were provided free of charge to all children 0 through 18 years of age, regardless of family income. However, in 2009, major state budget deficits prompted the legislature to remove the HPV vaccine from the universal childhood vaccine program. Children with private health insurance are no longer eligible to receive state-funded and supplied HPV vaccine.

However, the Vaccines for Children Program will continue to provide federally funded vaccines to providers for children 18 and younger who are: Medicaid-eligible, Native American, Alaskan Native, uninsured and underinsured (have health insurance that does not cover vaccines or has a limit on vaccine coverage). Furthermore, Washington State has been directed by the Legislature to continue to provide HPV vaccine for children in state sponsored health plans, like the Children’s Health Insurance Program (CHIP), the Children’s Health Program (CHP) and the Basic Health Plan (BHP). Unfortunately, beginning in May 2010 state funding for purchases of all other vaccines, in addition to the HPV vaccine, will also be discontinued for people who are not covered by the Vaccines for Children Program. This program will continue to provide federally funded vaccines to these populations.

The Department of Health’s Immunization and CHILD Profile Program will continue to promote adolescent vaccination (including HPV), provide educational materials, and make the HPV vaccine available at no cost for the adolescents in the Vaccines for Children Program. In Washington State, the law requires that schools provide information on HPV disease.

Currently there is not a system in Washington to track the actual number and percentage of girls who are vaccinated against HPV. Without this data, it remains unclear if girls are fully immunized and whether disparities exist.

⁶³ Centers for Disease Control and Prevention, Department of Health and Social Services. *Genital HPV Infection fact sheet*. 2008. www.cdc.gov.

⁶⁴ McDermott-Webster. *The HPV Epidemic American Journal of Nursing*. 1999. 99, 24L.

⁶⁵ Marrazzo JM. *Barriers to infectious disease care among lesbians*. *Emerg Infect Dis*, November, 2000.

⁶⁶ (D’Souza G, Kreimer AR, Viscidi R, et al. *Case-control study of human Papillomavirus and oropharyngeal cancer*. *New England Journal of Medicine*. 2007. 356; 1944-1956.

⁶⁷ The American Social Health Association. *HPV and Cervical Cancer Prevention fact sheet*. 2007.

⁶⁸ Washington State Cancer Registry. *Annual Report*. 2008. <https://fortress.wa.gov/doh/wscr/WSCRreports.aspx>

⁶⁹ Washington State Department of Health. *Immunization and CHILD Profile fact sheet*. August, 2008. <http://www.doh.wa.gov/cfh/mch/documents/PCPFPS.pdf>

Melanoma

Goal 6: Slow the increase in the incidence of malignant melanoma in Washington.

GOAL
6

- **Objective 6.1: By 2013, increase the percentage of adults who report using at least one sun protective behavior always or nearly always to 75%.**

Baseline: 57% Data source: 2000 BRFSS

Strategies

- Educate the public on the impact of sun exposure and how to protect against melanoma.
- Work with local media to provide UV alerts and educate the public on sun safety.
- Develop survey questions that assess sun protective behavior among adults (including parents) and children.

- **Objective 6.2: By 2013, determine a baseline percentage of parents who report regularly using some form of sun protection for their children.**

Data source to be established.

Strategies

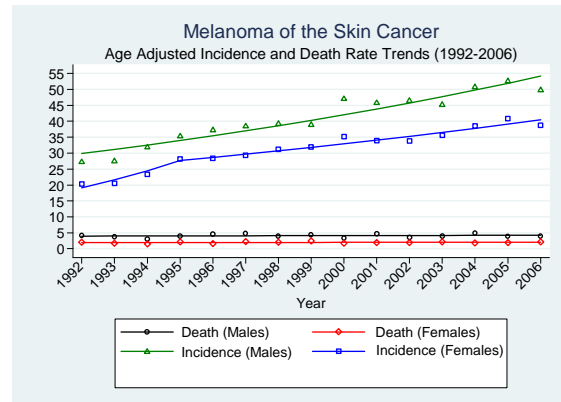
- Develop curricula based on scientific evidence that educates children about sun exposure and encourages sun safe behaviors.
- Promote policies in schools and daycares that encourage sun safe behaviors.
- Develop survey questions that assess sun protective behavior among adults (including parents) and children.
- Work with local media to provide UV alerts and educate the public on sun safety.

The most serious form of skin cancer is melanoma. It is characterized by the uncontrolled growth of cells in the skin that produce melanin, which tans the skin and protects deep skin layers from ultraviolet (UV) rays.⁷⁰ Melanoma is associated with sunburns, particularly those that occur early in life. Melanoma is largely preventable when “sun smart” behaviors are used--such as wearing wide-brimmed hats, long sleeve shirts or pants, sunglasses, sunscreen with SPF of at least 15, and seeking shade.⁷¹ When detected early, melanoma is curable.

Burden of Melanoma

Melanoma is the fourth leading cause of cancer for men and women in Washington State. In 2006, 2,763 people were diagnosed with melanoma, and 190 people died of the disease. Since 1995, Washington’s incidence rates have increased steadily by 3.5% per year. Incidence rates of melanoma in Washington are higher than national average rates (49.8 vs. 43.3), although death rates are similar to national trends.⁷²

Despite being the most deadly form of skin cancer, melanoma is responsible for only a small proportion of total cancer deaths in our state. The combined male and female death rate for melanoma is 3 per 100,000. Death rates for melanoma in Washington have remained level since 1992, and are similar to national rates. When melanoma is diagnosed early, death rates are low and survivors are still be alive five years later.⁷²



Disparities

Melanoma is the second most common form of cancer for young adults 15 to 29 years old.⁷³ Still, melanoma is more common among older people, particularly those over 65. In younger age groups, women have higher incidence rates than men, but after age 65, the incidence rates for men are twice the rates for women.⁷⁴

In 2004 to 2006, whites had the highest age-adjusted incidence rate of melanoma, followed by Non-Hispanics. Asian and Pacific Islanders, American Indians and Alaska Natives, and Hispanics all had comparatively low rates. Nationally, whites also have the highest rates of melanoma.⁷⁵

2004-2006 Incidence and Death age-adjusted rates per 100,000 for Melanoma		
Race /Ethnicity	Incidence	Death
Whites	46.5	3.1
Non-Hispanics	44.4	2.9
Asian and Pacific Islanders	2.3	0.5
American Indians/ Alaska Natives	12	0.8
Hispanics	8.0	0.7

Prevention

Melanoma is associated with sunburns, particularly those that occur early in life. Reducing exposure to UV rays (real or artificial) through sun smart behaviors can prevent sunburn and might reduce risk of melanoma. Sun protective behaviors include the use of barriers such as clothing, hats, and sunscreen (UV-A and UV-B protection with sun-protection factor of at least 15); avoiding sun exposure at midday (10:00 a.m. to 4:00 p.m.); and seeking shade when outside during that time.

Current Activities to Increase Sun Safety

Since the Fall of 2006, the Skin Cancer Task Force has been working to educate and inform adults and children on sun safety. Projects of the task force include:

- Partnering with community events to promote and educate on sun safety while disseminating sunscreen samples,
- Providing evidence-based skin cancer training to daycare providers; assessing current sun safety programs underway in daycares to improve and standardize policies,

- Assessing evidence-based educational campaigns targeting children and adults for use in Washington,
- Supporting the Spokane-based Community Health Education and Resources annual skin cancer screening event through promotion and education,
- Developing a professional task force name—“Washington Cover Connection,” including logo, branding, taglines, and messaging to be used in launching future educational campaigns.

In 2008, Governor Christine Gregoire proclaimed Washington a “Sunwise” state to encourage Washingtonians to adapt sun smart behaviors.⁷⁶ The SunWise program was developed by the United States Environmental Protection Agency (EPA), and works to educate schools and communities on sun safety.⁷⁷ A free SunWise Tool Kit is available for use in all schools throughout the state. To date, 900 teachers in Washington have requested the SunWise toolkits.

Effective Interventions to Promote Sun Protective Behavior

The Centers for Disease Control and Prevention’s (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding education and policy guidelines to prevent skin cancer in the following settings: primary schools, outdoor recreation, daycare centers, secondary schools and colleges, outdoor occupation, and healthcare settings. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention’s effectiveness.⁷⁸ Examples of effective interventions include:

- Educational and policy approaches in primary schools to improve children’s “covering up” behavior
- Educational and policy approaches for adults in outdoor recreation settings

⁷⁰ *What is Melanoma?* May 21, 2009. <http://www.melanoma.com/whatis.html>.

⁷¹ Washington State Department of Health. *The Health of Washington State: Melanoma of the Skin*. 2007. Olympia, WA. May 21, 2009. <http://www.doh.wa.gov/hws/doc/CD/CD-MEL2007.pdf>

⁷² Washington State Cancer Registry. *2006 Cancer in Washington. Cancer by Site. Melanoma of the Skin*. May 21, 2008. <https://fortress.wa.gov/doh/wscr/PDF/06Report/CancerBySite06.pdf>.

⁷³ U.S. National Institutes of Health, National Cancer Institute. *Cancer Epidemiology in Older Adolescents & Young Adults*, Surveillance Epidemiology and End Results AYA Monograph. 2007. 53-63. May 21, 2009.

<http://seer.cancer.gov/publications/aya/>.

⁷⁴ Washington State Cancer Registry. *Washington State Cancer Incidence*. 2006 data. May 21, 2009.

<https://fortress.wa.gov/doh/wscr/WSCRQuery.aspx>.

⁷⁵ Washington State Cancer Registry. *2006 Cancer in Washington. Cancer by Race and Ethnicity. Melanoma of the Skin*. May 21, 2008. <https://fortress.wa.gov/doh/wscr/PDF/06Report/CancerByRaceEthnicity06.pdf>.

⁷⁶ Gov. Gregoire proclaims Washington a SunWise State. Press release: 07/30/2008. May 21, 2000.

<http://yosemite.epa.gov/opa/admpress.nsf/d96f984dfb3ff7718525735900400c29/f469f435eb864518852574960070b505!OpenDocument>.

⁷⁷ U.S. Environmental Protection Agency. *SunWise Program*. May 15, 2009.

<http://www.epa.gov/sunwise/index.html>.

⁷⁸ U.S. Centers for Disease Control and Prevention. *Guide to Community Preventive Services, Cancer Prevention and Control*. February 10, 2009. May 7, 2009. <http://www.thecommunityguide.org/cancer/index.html>

Screening for Breast Cancer

Goal 7: Reduce breast cancer deaths and late-stage disease in Washington women.

- **Objective 7.1: By 2013, increase the percentage of women age 50 and older who have had a screening mammogram within the past two years to 85%.**

Baseline: 79% Data source: BRFSS 2004, 2006 (combined)

- **Objective 7.2: By 2013, increase the percentage of women ages 40-49 who have had a screening mammogram within the past two years to 72%.**

Baseline: 64% Data Source: BRFSS 2004, 2006 (combined)

Strategies:

- Target intervention efforts to populations with lower screening rates and later stage of diagnosis.
- Engage in targeted outreach to women of Hispanic origin and other minority underrepresented/underserved populations to increase the rate mammography screening.
- Expand implementation of the “Ask Me” program for specific populations, to including translating the campaign materials and doing outreach for specific populations.
- Support the development of evidence-based interventions to overcome identified barriers.
- Educate women less than 40 years of age regarding the value of screening mammography beginning at age 40 and risk factors for breast cancer.
- Encourage more clinics to participate in the Washington State Medical Home Collaborative.
- Work with data collection agencies to determine how to accurately capture screening rates for America Indians and Alaska Natives who have disproportionately higher disease rates and death.
- Support policy, environmental, and systems changes at the state and local levels that increase access to screening, diagnostic, and treatment services.

Based on the current science, mammogram screening is the most effective way to detect breast cancer early. When breast cancers are detected early, women have a greater chance of effective treatment and survival.⁷⁹ Unfortunately, mammograms are not able to detect all types of breast cancers, so women should regularly receive a clinical breast exam and report any changes on the shape and/or size of their breasts to their physician.

Burden of Breast Cancer

Breast cancer is the most frequently diagnosed cancer and the second leading cause of cancer related deaths among women in Washington. In 2006, 5,531 new cases and 809 deaths from female breast cancer were reported. The age-adjusted incidence rate of breast cancer in females increased gradually from 1992 to 1999. Since 1999, the number of new cases has gradually decreased each year, similar to the national pattern. From 1992 to 2000, fewer women living in Washington died due to breast cancer each year, but since 2000 rates have remained level.⁸⁰

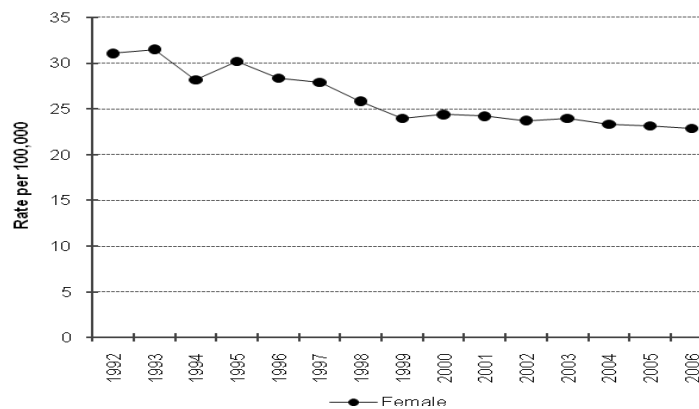
Washington State Female Residents Incidence Rate Trends Age-adjusted to 2000 US standard population



For women, breast cancer incidence rates increased steadily by 2.9% per year from 1992 to 1999; since then, however the rates have decreased steadily by 2.1% per year.

For women, breast cancer death rates decreased steadily by 3.3% per year from 1992 to 2000; since then, however the rates have remained level.

Washington State Female Residents Death Rate Trends Age-adjusted to 2000 US standard population



There are many theories about why Washington has a higher incidence of breast cancer compared to the rest of the nation. For instance, one study indicated delayed child-bearing in 1970-90s might have contributed to an increased breast cancer rate in Washington.⁷⁹ Another study suggested that women in Washington have low exposure to sunlight resulting in decreased absorption of Vitamin D, which may protect against breast cancer.^{81, 82, 83, 84, 85}

The causes for most breast cancers are unclear. However, several risk factors have been identified, including:⁸⁶

- Being a woman
- Getting older
- Starting menstruation younger than average
- Starting menopause at a later than average age
- Delayed child-bearing or never giving birth
- Not breastfeeding
- Personal history of breast cancer or some non-cancerous breast diseases

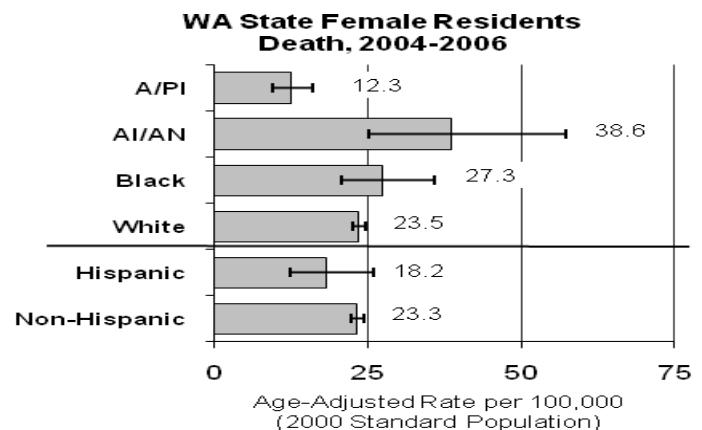
- Family history of breast cancer (mother, sister, daughter)
- Treatment with radiation therapy to the breast/chest
- Being overweight or obese (increases risk for breast cancer after menopause)
- Long-term use of hormone replacement therapy (estrogen and progesterone combined)
- Having changes in the breast cancer-related genes BRCA1 or BRCA2
- Drinking alcohol (more than one drink per day)
- Physical inactivity

Disparities in the Burden – Death Rates

While breast cancer is less common at a younger age, younger women tend to have more aggressive breast cancers than older women. This might help explain why survival rates are lower among women who were diagnosed at ages 50 and younger compared to women ages 70 and older.⁸⁰

In Washington in 2004 to 2006, age-adjusted death rates from breast cancer (female-only) were lower among Asians and Pacific Islanders than in all other groups, including women of Hispanic origin. Women who reported being of Hispanic origin had a lower death rate compared to non-Hispanic and other racial groups. However, this data should be interpreted with caution since race reporting by Hispanics has been shown to be variable.⁸⁷

Death rates for American Indians and Alaska Natives were significantly higher than all groups except African Americans, while death rates were lowest among Asians and Pacific Islanders. Prior to 2003, death rates from breast cancer were similar among American Indian and Alaska Native and women in other groups. Nationally, African American women have higher breast cancer death rates than white women. This pattern was evident in Washington prior to 2003.



Socioeconomic factors and access to health care do not completely account for the differences in breast cancer death and severity of cancer at diagnosis between white and African American women. Even after accounting for income and education, African American women are more likely to be diagnosed when breast cancer is more advanced and, have tumor characteristics associated with poor survival, lower five-year survival rate, and have disease that is more difficult to treat than white women.⁸⁸

The lower death rate among Asian and Pacific Islander women should be interpreted with caution since there are a wide range of death rates among the subgroups of Asian and Pacific Islanders. For example, foreign-born Asian and Pacific Islander women are more likely to be diagnosed later in the disease process than are U.S.-born Asian and Pacific Islander women. Washington cancer statistics do not include reliable data about the sub-groups within this diverse population.⁸⁸

The Health of Washington State-2007 did not report differences in cancer death between women who lived in low-income areas, compared to higher-income areas, but this finding might be misleading. Women living in low-income neighborhoods are less likely to get breast cancer than women in wealthier communities, but once a woman is diagnosed with breast cancer, she is more likely to die if she lives in a low-income community, due to being diagnosed at a later stage of disease.⁸⁸

In Washington for 2004 to 2005, age-adjusted breast cancer death rates were higher for women with a high school education or less than among women with more education. Women with lower levels of education are less likely to be diagnosed with breast cancer, in part because of differences in mammography use, reproductive behavior, or unknown factors.⁸⁸

Disparities in the Burden – Screening Rates⁸⁹

According to the BRFSS data for 2004 and 2006 combined, 75% of women ages 40 to 44 years reported ever having received a mammogram compared to 90% of women aged 45 to 49. Women ages 50 and older had a high screening rate with over 95% reported ever having received a mammogram.

The likelihood that a woman will receive regular mammograms (in the last two years) is strongly associated with income. Only 57% of women (aged 40 and over) with household incomes of less than \$20,000 a year have received a mammogram in the past two years. Of women (aged 40 and older) with an annual household income of over \$35,000 (which is roughly at or above 200% of the Federal Poverty Level for a family of three), over 76% have received regular mammograms, peaking at 80% for women with annual household incomes \$75,000 or more.

Education and employment status are also important determinants of whether a woman receives regular mammograms. Of women who did not graduate high school, only 63% have had a mammogram in the past two years. That percentage jumps to 72% for high school graduates. College or technical school graduates, at 78%, are the most likely to receive regular mammograms. Women aged 40 and older who are either employed or retired are most likely to have receive regular mammograms (75% and 81% respectively). Only 63% of women who have been unemployed for over a year receive regular mammograms. Women aged 40 and older who are going back to school are least likely to receive their regular mammograms (60%).

Some variability in screening rates exists among racial groups. Asians are more likely to receive a regular mammogram (77%) than all other racial groups. Women of Hispanic origin (68%) and Native Hawaiian/Pacific Islanders are the least likely (62%) to receive a regular mammogram.

Current Activities to Promote Screening

The law in Washington State requires that insurance companies that provide coverage for hospital or medical expenses also provide coverage for screening mammograms. The law applies to disability insurance policies, group disability policies, health care service contracts, health maintenance organizations, and public employee health plans.

The Breast, Cervical, and Colon Health Program (BCCHP), administered by the Washington State Department of Health, provide free breast, cervical and colon cancer screening for eligible women. This program is part of a nationwide program funded by the Centers for Disease Control and Prevention (CDC) and supported with additional funding from the state, Susan G. Komen for the Cure affiliates, and the Breast Cancer Prevention Fund. Women who are at or below 250% of the Federal Poverty Level, 40 to 64 years of age, and are uninsured or underinsured are eligible for the program. These services are available statewide and include screening, diagnostic tests if something abnormal is found, and assistance with linking diagnosed women to Medicaid to pay for treatment.

In 2009, the Washington State Legislature authorized funding for the implementation of the Medical Home Collaborative, sponsored by the Department of Health. This patient-centered medical home delivers primary care to patients of all ages and allows time for a strong, trusting relationship to develop between the physician or primary care provider, the care team, the patient and his or her family. Rather than focus only on episodes of illness, a medical home works to provide patients with care for overall health, including regular mammograms. Visits may be planned to keep a chronic illness under excellent control or to make sure prevention or early detection screening and tests are completed in accordance with current guidelines. Furthermore, a medical home coordinates the care a patient may need from specialists or other health providers. The providers who participate in the collaborative benefit by learning skills to address: patient needs and improve their health, improve patient-provider relationships, and streamline clinical processes. Patients benefit by receiving holistic health care that focuses on prevention and early detection, as well as optimal management of already existing chronic illnesses.

Gaps

Although the BCCHP reaches out to low-income, uninsured women, the program is limited by a number of factors, including funding and capacity. According to the Susan G. Komen Foundation, funding from the Centers for Disease Control for breast and cervical health is enough to reach less than one in five eligible women.⁹⁰ Even with additional funding in Washington State, over 50,000 low-income, uninsured women are unable to benefit from these services. Furthermore, particularly in more rural areas of the state, the availability of screening and treatment facilities is limited.

Many women in need of mammograms experience additional barriers to screening. These include: limited or a lack of transportation or child care, distance from screening facility (particularly in rural areas of the state), limited awareness about the importance of mammograms, false sense of security, poverty, and cultural beliefs.

In 2008, the BCCHP received funds from the Washington State Legislature to reimburse provider for digital mammograms. In the same year, the CDC authorized reimbursement for digital mammograms, but no additional funding was provided.

More work needs to be done to reach out and educate women who are less than 40 years of age. Data shows that women aged 40 to 44 are less likely to receive a mammogram than older age groups. Educating women on the importance of starting screening at age 40, as well as reducing

potential barriers to screening, can ensure that breast cancer, if present, is identified as early as possible, increasing the chance of survival.

Effective Interventions to Promote Screening for Breast Cancer

The Centers for Disease Control and Prevention's (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding education and policy guidelines to promote screening for breast cancer. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention's effectiveness.⁹¹ Examples of effective interventions include:

- Client and provider reminders
- Provider assessment and feedback
- Small media, such as videos and printed materials (brochures, letters, and newsletters)
- One-on-one education in person or by telephone
- Reducing structural barriers to screening
- Reducing out-of-pocket costs

⁷⁹ Ries LAG, Melbert D, Krapcho M, Stinchcomb DG, Howlander N, Horner MJ, Mariotto A, Miller BA, Feuer EJ, Altekruse SF, Lewis DR, Clegg L, Eisner MP, Reichman M, Edwards Bk (eds). *SEER Cancer Statistics Review. 1975-2005*, National Cancer Institute Bethesda, MD, http://seer.cancer.gov/csr/1975_2005/, based on November 2007 SEER data submission.

⁸⁰ Washington State Cancer Registry. *2006 Breast Cancer Incidence-Annual Report*. 2009. Olympia, WA. <https://fortress.wa.gov/doh/wscr/WSCRreports.aspx>.

⁸¹ Juliet Van Eenwyk, Washington State Department of Health. December 2006.

⁸² MacMahon B. *Epidemiology and the causes of breast cancer*. *Int J Cancer* 2006; 118: 2373-2378.

⁸³ McCullough ML, Rodriguez C, Diver WR, Feigelson HS, Stevens VL, Thun MJ, Calle EE. Dairy, calcium and vitamin D intake and postmenopausal breast cancer risk in the Cancer Prevention Study II Nutrition Cohort. *Cancer Epidemiol Biomarkers Prev* 2005; 14(12): 2898-904.

⁸⁴ Shin MH, Holmes MD, Hankinson SE, Wu K, Colditz GA, Willett WC. Intake of dairy products, calcium, and vitamin d and risk of breast cancer. *J Natl Cancer Inst* 2002; 94(17): 1301-11.

⁸⁵ John EM, Schwartz GG, Dreon DM, Koo J. Vitamin D and breast cancer risk: the NHANES I epidemiologic follow-up study. 1971-1975 to 1992. National Health and Nutrition Examination Survey. *Cancer Epidemiol Biomarkers Prev* 1999; 8(5): 399-406.

⁸⁶ Centers for Disease Control and Prevention Division of Cancer Prevention and Control. *Breast Cancer and You: What you need to know*. 2009. <http://www.cdc.gov/cancer/dcpc/publications/breast.htm>

⁸⁷ Martin E. *Questionnaire Effects on Reporting of Race and Hispanic Origin: Results of a Replication of the 1990 Mail Short Form in Census 2000*. US Census. 2002. <http://www.census.gov/pred/www/rpts/AQE%20R&HO%20Final%20Report.pdf>

⁸⁸ Washington State Department of Health. *The Health of Washington State, 2007*. <http://www.doh.wa.gov/hws/CD2007.shtm>

⁸⁹ Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. Center for Health Statistics. 2009. http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm

⁹⁰ Susan G. Komen For The Cure. *The State of Breast Cancer*. 2008. <http://www.komenseattle.org/>.

⁹¹ U.S. Centers for Disease Control and Prevention. *Guide to Community Preventive Services, Cancer Prevention and Control*. February 10, 2009. May 7, 2009 from <http://www.thecommunityguide.org/cancer/index.html>

Women's Reproductive Cancers

Goal 8: Reduce death in Washington women from gynecological cancers that can be detected early by screening tests (cervix) or by response to symptoms and signs (ovaries, uterus, vulva).

GOAL
8

- **Objective 8.1: By 2013, increase the percentage of women 18 and older who report having had a Pap test in the previous 3 years to 92%.**

Baseline: 85% Data Source: BRFSS 2004, 2006 (combined)

Strategies

- Promote cervical cancer screening for minority and low-income women, including women of Hispanic origin.
- Educate women and providers on importance of Pap tests conducted at appropriate intervals and appropriate follow-up care during women's health exams.
- Seek opportunities for policy, environmental, and systems changes that increase awareness of and access to cervical cancer screening services.
- Seek opportunities for policy, environmental, and systems changes that increase access to quality, state-of-the-art treatment of cervical cancer, especially for disparate and underserved populations.
- Assure women in BCCHP get endometrial biopsy if Pap shows normal endometrial cells in postmenopausal women or AGC, AGC-NOS, AGC-neoplastic, AIS, or adenocarcinoma.

- **Objective 8.2: By 2013, develop a baseline percentage of women ages 18 and older who know the symptoms of ovarian cancer.**

Baseline: To be established

Strategies

- Survey women to determine a baseline measurement of their knowledge of symptoms and risk factors for ovarian cancer.
- Educate women and health care providers about the symptoms of reproductive cancers, including ovarian, uterine, and vulvar cancer.
- Promote programs that focus on increasing knowledge of ovarian cancer symptoms.

- **Objective 8.3: By 2013, develop a baseline percentage of providers who know the symptoms of ovarian cancer.**

Baseline: To be established

Strategies

- Survey of health care providers to determine a baseline measurement of their knowledge of symptoms and risk factors for ovarian cancer.
- Educate women and health care providers about the symptoms of reproductive cancers, including ovarian, uterine, and vulvar cancer.
- Promote programs that focus on increasing knowledge of ovarian cancer symptoms.

- Educate health care organizations and individuals about promotion of skin examinations that include the vulva.

Cancer of the Cervix

Cervical cancer is preventable. Persistent infection by the human papillomavirus (HPV) has been shown to be a major risk factor for the development of cervical cancer. Since cervical cancer progresses very slowly, Pap screening is a very effective way to detect cervical cell changes at a very early stage resulting in increased survival rates. The five year relative survival rate for the earliest stage of invasive cervical cancer is 92%. The overall (all stages combined) five year survival rate for cervical cancer is about 71%.⁹²

Burden of Cervical Cancer

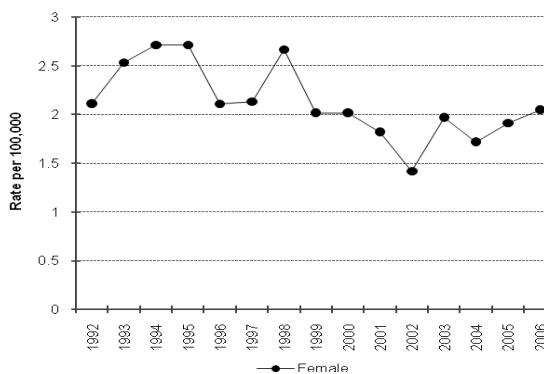
Early in the 20th century, cervical cancer was one of the most common cancers affecting U.S. women. Due to the introduction of Pap screening, cervical cancer is now ranked the twelfth most common cancer and fourteenth most common cause of cancer death in American women.⁹³ The death rate from cervical cancer continues to decline by nearly 4% a year.⁹²

In 2009, about 11,270 women in the United States (U.S.) will be diagnosed with cervical cancer and about 4,070 women will die from cervical cancer.⁹² In certain populations and geographic areas of the U.S., cervical cancer death rates are still high, in large part due to limited access to health care and cervical cancer screening.⁹⁴

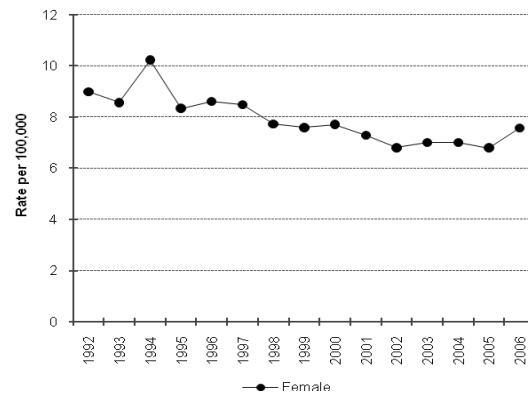
In Washington, 244 cases of cervical cancer were diagnosed and 69 women died from this disease in 2006 (death rate was approximately 2 per 100,000). The rate of diagnosed cases continues to decline in Washington.⁹⁴

In Washington, 244 cases of cervical cancer were diagnosed (7.6 per 100,000). Cervical cancer incidence rates decreased steadily by 2.2% per year during the period from 1992 to 2006.⁹⁴

Washington State Female Residents
Death Rate Trends
Age-adjusted to 2000 US standard population



Washington State Female Residents
Incidence Rate Trends
Age-adjusted to 2000 US standard population



Sixty-nine women died from cervical cancer in 2006 (approximately 2 per 100,000). Cervical cancer death rates decreased steadily by 2.6% per year during the period from 1992 to 2006.⁸⁰

Risk Factors

Almost all cervical cancer is caused by persistent infection of the cervix with the human papillomavirus (HPV). HPV infections are spread mainly through sexual contact and are very common. Estimates range from 50% to 75% of sexually active men and women are infected with HPV at some time in their lives. This virus is relatively slow to develop and symptoms may not arise. But HPV can be found prior to a cervical cancer diagnosis with a Pap test. See the section on the Human Papillomavirus for more information about HPV.

Other factors that increase the risk for cervical cancer include:

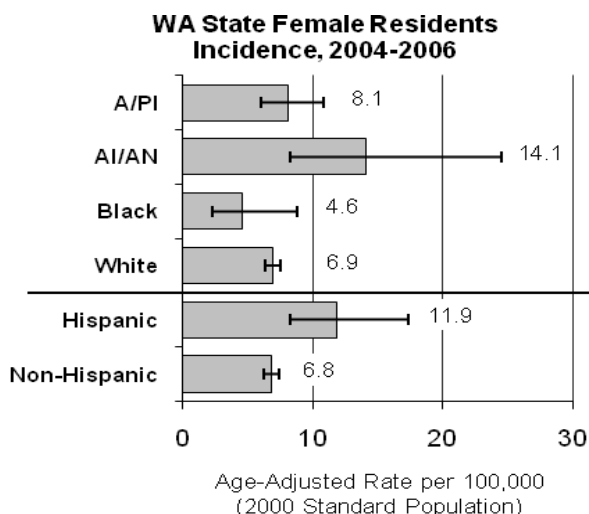
- Smoking cigarettes
- A high number (seven or more) of full-term pregnancies
- Long-term use of oral contraceptives
- Infection with HIV
- Sexual contact at an early age
- Sexual contact with one or more partners⁹²

Women who do not get regular Pap tests to screen for abnormalities in the cervix are at higher risk of invasive cervical cancer than are other women. The major barriers to Pap screening are:

- A lack of access to health care
- Services that are not culturally appropriate or offered only in English
- Lack of education about the need for screening
- Health care providers who do not always recommend regular screening,
- Embarrassment over having a Pap test and fear that it may hurt^{94, 95}

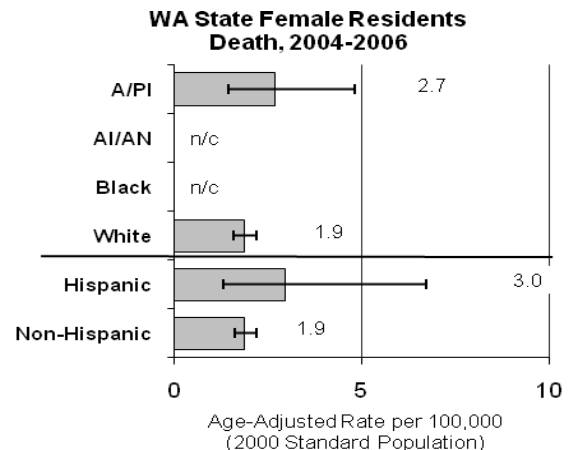
Disparities in the Burden⁹⁶

In Washington for 2004 to 2006, age-adjusted incidence rates for invasive cervical cancer were higher for women of Hispanic origin (12 per 100,000) than for non-Hispanic white women (7 per 100,000). Women of Hispanic origin (3 per 100,000) also have a higher death rate from cervical cancer compared to women of non-Hispanic origin (2 per 100,000). The incidence of cervical cancer in Asian and Pacific Islander women was 8 per 100,000.



While cervical cancer death rates have decreased among U.S.-born women, rates are still high among foreign-born women living in the United States. This is particularly true for immigrants from Asia and Latin America where cervical cancer incidence rates are high. In these populations screening women who don't have apparent symptoms is not a cultural norm.⁹⁴

According to BRFSS (2004, 2006 combined) women with a high school education or below, were less likely to have been screened for cervical cancer in the past three years compared to women with a college education or above (79% versus 84%, respectively).



Current Activities to Promote Screening

In 2007, a vaccine became available to prevent HPV infections, ultimately preventing cervical cancer. The HPV Vaccine is administered to girls and young women ages 9 to 26, preferably prior to sexual activity (before they are exposed to HPV), with a set of three injections given over six months.

Free Pap tests are available through the state Breast, Cervical and Colon Health Program (BCCHP) for low-income (at or below 250% of the Federal Poverty Level), uninsured women ages 40 to 64. This program is administered by the Washington State Department of Health (DOH). In fiscal year 2008-2009, the program screened over 17,000 women. The contact number for this program is 1-888-438-2247. Other programs, such as Maternal and Child Health at DOH, and family planning programs promote access to and usage of cervical screening services. Medicaid administers a program to pay for treatment of cervical cancer.

Healthy People 2010 set a national goal for 90% of all women to have a Pap test in the previous three years. Washington State has already met the 2010 goal and now seeks to build upon past success over the next five years to bring the overall screening rate to 92%.⁹⁷

Effective Interventions to Promote Screening for Cervical Cancer

The Centers for Disease Control and Prevention's (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding education and policy guidelines to promote screening for cervical cancer. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention's effectiveness.⁹⁸ Examples of effective interventions include:

- Client and provider reminders
- Provider assessment and feedback
- Small media, such as videos and printed materials (brochures, letters, newsletters)
- One-on-one education, in person or by telephone

Cancer of the Ovaries⁹⁹

Historically ovarian cancer was called the “silent killer.” Ovarian cancer is the ninth most common cancer in women (not counting skin cancer) and the fifth leading cause of cancer death among women both nationally and in Washington State. All women are at risk for ovarian cancer, but older women are more likely to get the disease than younger women. About 90% of women who get ovarian cancer are older than 40 years old, with the greatest number being ages 55 years or older.

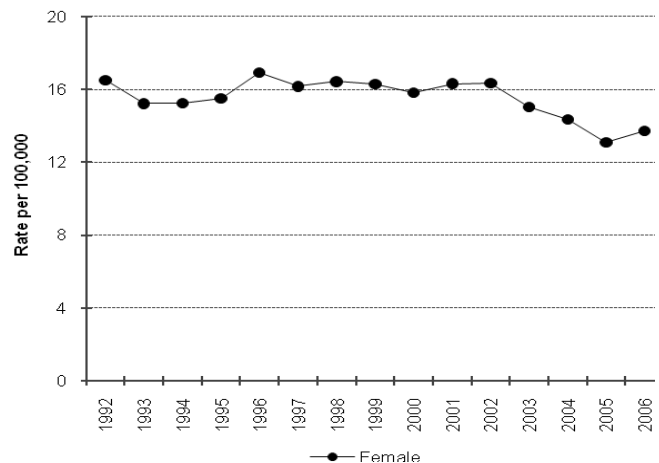
Burden of Ovarian Cancer

In 2005, 19,842 women in the United States were diagnosed with ovarian cancer, making it the second most common gynecologic cancer, after uterine. Ovarian cancer causes more deaths than any other gynecologic cancer in the U.S., but it accounts for only about 3% of all cancers in women.¹⁰⁰

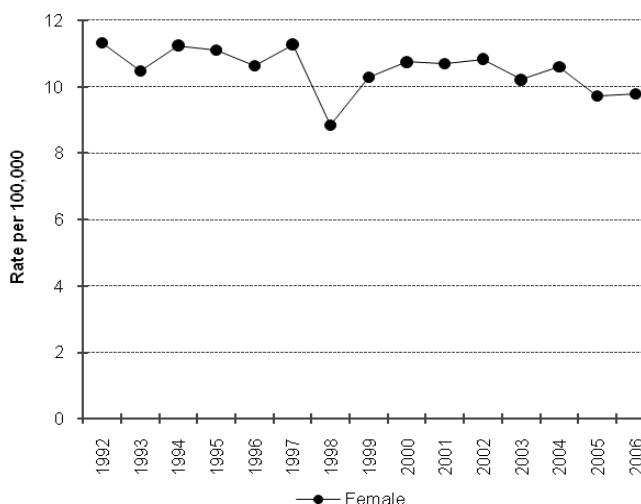
Around two-thirds of women with ovarian cancer are 55 or older. It is slightly more common in white women than African-American women.¹⁰¹

In 2006, 479 women were diagnosed with ovarian cancer in Washington (age-adjusted incidence rate = 13.7 per 100,000). Ovarian cancer incidence rates remained level from 1992 to 2002; since then, however the rates have decreased sharply by 4.2% per year.¹⁰²

Washington State Female Residents
Incidence Rate Trends
Age-adjusted to 2000 US standard population



Washington State Female Residents
Death Rate Trends
Age-adjusted to 2000 US standard population



In 2006, 338 women died of ovarian cancer in Washington (age-adjusted mortality rate = 9.8 per 100,000). Ovarian cancer mortality rates remained level during the period from 1992 to 2006.¹⁰³ Nationally, ovarian cancer accounted for approximately 21,550 new cases of cancer and 14,600 deaths. It is one of the top ten most common cancers for women. Ovarian cancer is the deadliest of all gynecologic cancers. The five year survival rate for an early stage diagnosis is 93%. However, 70-80% of these women are not diagnosed until

advanced stage, when the five year survival rate drops to 20%-30%. Only 45% of all women diagnosed with ovarian cancer are alive five years from the time of diagnosis. African American women have a 5-year survival rate of 39.5%.¹⁰⁴ Recent research has shown that 95% of women with ovarian cancer reported symptoms prior to diagnosis and 89% of women with early stage disease reported symptoms.¹⁰⁵

Screening Tests

A study done in 2007 found that certain symptoms were associated with ovarian cancer. Due to the lack of a screening test for ovarian cancer, researchers are investigating the use of a symptom index to help providers determine if additional tests (CA125 blood tests and transvaginal ultrasound) are appropriate.¹⁰⁶

This research has identified a set of signs and symptoms that include:¹⁰⁶

- bloating (swelling of the stomach (abdomen))
- pelvic pressure or abdominal pain
- difficulty eating or feeling full quickly
- urinary urgency or frequency

Ovarian cancer patients reported these symptoms to be persistent, a change from normal, more frequent, more severe and of a more recent onset than controls. The American Cancer Society (ACS), the Gynecologic Cancer Foundation, and the Society of Gynecological Oncologists issued an Ovarian Cancer Symptoms Consensus Statement in 2007 to educate both women and providers about ovarian cancer symptoms.¹⁰⁷

Most of these symptoms can also be caused by other, less serious, problems. Dealing with symptoms right away can improve the odds of finding the cancer early and treating it with success.

Other symptoms of ovarian cancer can include those listed below:

- tiredness
- upset stomach
- back pain
- pain during sex
- constipation
- menstrual changes

These symptoms are also commonly caused by a non-cancerous disease and by cancers of other organs. When they are caused by ovarian cancer, they tend to be persistent and occur more often or are more severe.¹⁰⁵

Risk Factors

While the causes of ovarian cancer are still unknown, some of the risk factors are known.¹⁰¹ It is thought pregnancy and taking birth control pills both lower the risk of ovarian cancer. Since both of these things reduce the number of times the ovary releases an egg, some researchers think that there may be a link between the release of eggs and the risk of getting ovarian cancer.

Some possible risk factors for the most common type of ovarian cancer (epithelial ovarian cancer) are listed below:

- Age: Most ovarian cancers happen after menopause. Half of all these cancers are found in women over the age of 63.
- Obesity
- Ovulation or not having children
- Fertility drugs
- Estrogen replacement therapy and hormone replacement therapy
- Diet
- Smoking and alcohol use
- Family histories of ovarian cancer, breast cancer, or colorectal cancer
- BRCA1 and BRCA2 gene mutation

Cancer of the Uterus

Uterine cancer (endometrial cancer) is the fourth most common among American women.¹⁰⁸ It can often be cured, especially when diagnosed early.¹¹⁰

Burden of Uterine Cancer

There are an estimated 40,000 new cases of endometrial cancer diagnosed each year in the United States and approximately 7,500 deaths per year from this disease.¹⁰⁹

In Washington in 2006, the incidence rate for uterine cancer was 7.6 per 100,000, compared to 23 per 100,000 nationally. The death rate in Washington in 2006 was 2 per 100,000.⁸⁰

Cancer of the uterus has a relatively early stage of diagnosis and a relatively low death rate. Most women (90%) develop symptomatic bleeding or discharge that facilitates early diagnosis and increased cure. Seventy-two percent of cases are diagnosed in stage 1. Some women with bleeding actually have precancerous changes (atypical endometrial hyperplasia or endometrial intraepithelial neoplasia), so prevention is possible.¹¹⁰

Disparities

Incidence of uterine cancer is highest among whites in the U.S. (24.5 per 100,000) compared to African American women (19.7 per 100,000). However, the death rate for white women is much less (4.1 per 100,000) than that of African American women (6.8 per 100,000).¹¹¹

Cancer of the Vulva

Cancer of the vulva, called Vulvar cancer, is an uncommon disease. While the vulva is located in the female genitals, vulvar cancer is actually a type of skin cancer.

Burden of Vulvar Cancer

In 2008, the total number of cases in the U.S. were expected to be 3,480. In 2006, there were 264 cases in women in Washington.¹⁰³ Over two-thirds of the vulvar cancers in Washington are in situ and 22% are localized. Between 1992 and 2006, incidence rates remained stable. If diagnosed in the early state, the death rate for vulvar cancer is about 25%. There were 20 deaths in Washington in 2006. Death rates are stable.¹¹²

Nationally, the incidence of and death from vulvar cancer is fairly consistent across all races. The median age of diagnosis from 2002 to 2006 was 68 years, and the median age of death in the same time period was 79 years. The lifetime risk for all women is a quart of a percent. This means that 1 in every 395 women will be diagnosed with vulvar cancer at some point in her life.¹¹³

There is higher rate of HPV-related vulvar intraepithelial neoplasia (VIN) and HPV in women under age 50, but not invasive vulvar cancer. HPV-related VIN in younger women has not been proven to progress to invasive vulvar cancer. In older women (over age 65), disease is often not HPV related. About 90% of these cancers are squamous cell carcinomas (skin cancer), and prognosis is quite good when found early. Early detection and biopsy finds cancer at early stages and decreases incidence and death.¹¹⁴ This group may receive skin examinations, but they often do not include the vulvar area. Women need to be educated about self (or partner) examinations, and receive clinical examinations that are consistent with the guidelines of the American College of Obstetricians and Gynecologists.

⁹² American Cancer Society. Key Statistics for Cervical Cancer, 2009. www.cancer.org

⁹³ Christopher Dolinsky, MD and Christine Hill-Kayser, MD. *Cervical Cancer: The Basics*. 2009. <http://www.oncolink.org/types/article.cfm?c=6&s=17&ss=129&id=8226&p=1>

⁹⁴ U.S. National Cancer Institute. *Cancer Topics, Types, Cervical and Cancer Advances in Focus*. 2006. <http://www.cancer.gov/Templates/doc.aspx?viewid=CA5EF6E5-F688-4D1C-A64E-E999866BA508>

⁹⁵ Coughlin, S.S., Breslau, E.S., Thompson, T., and Benard, V.B. *Physician recommendation for Pap testing among U.S. women*. 2005.

⁹⁶ Washington State Department of Health Center for Health Statistics. *Washington State Mortality Data*. 2009. www.doh.wa.gov.

⁹⁷ US Department of Health and Human Services. *Healthy People 2010*. 2000. <http://www.healthypeople.gov/>

⁹⁸ Centers for Disease Control and Prevention. *Guide to Community Preventive Services, Cancer Prevention and Control*. February 10, 2009. May 7, 2009. <http://www.thecommunityguide.org/cancer/index.html>

⁹⁹ American Cancer Society. Ovarian Cancer fact sheet. 2007. www.cancer.org

¹⁰⁰ Centers for Disease Control and Prevention, Division of Cancer Prevention and Control, USCS.

¹⁰¹ American Cancer Society. *What causes Ovarian Cancer?* 2009. www.cancer.org

¹⁰² Ahmedin Jemal, Rebecca Siegel, Elizabeth Ward, Yongping Hao, Jiaquan Xu, Taylor Murray, Michael J. Thun, *Cancer Statistics*. 2008. CA Cancer Journal for Clinicians.

¹⁰³ Washington State Cancer Registry. 2006 Annual Report. 2008. Olympia, WA. <https://fortress.wa.gov/doh/wscr/WSCRreports.aspx>

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Colorectal Cancer

Goal 9 : Reduce death from colorectal cancer in Washington.

GOAL
9

- **Objective 9.1: By 2013, increase the percentage of people aged 50 and older that have had colorectal cancer screening according to established guidelines (FOBT/FIT in the past year or endoscopy in the past 10 years) to 70%.**

Baseline: 60%. Data source 2006 BRFSS

Strategies

- Identify gaps in colorectal cancer screening utilization in adults aged 50 years and older.
- Reduce barriers to colorectal cancer screening for all adults 50 years or older.
- Develop small scale public education and awareness programs to encourage people over age 50 to get screened.
- Educate providers regarding the importance of regularly counseling their eligible patients about the benefits of colorectal screening.
- Develop client and provider focused interventions to promote screening and appropriate follow-up.

- **Objective 9.2: By 2013, increase the percentage of people aged 50 and older without health insurance that have had colorectal cancer screening according to established guidelines (FOBT in the past year or endoscopy in the past 10 years) to 40%.**

Baseline: 28%. Data source: 2006 BRFSS

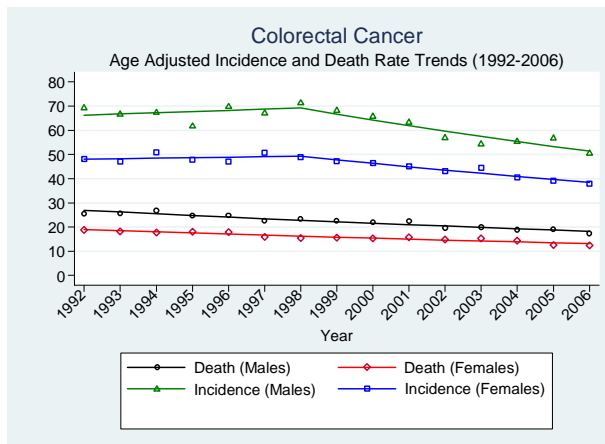
Strategies

- Seek funding opportunities to screen the uninsured for colorectal cancer.
- Promote policy change to ensure funding for a screening and treatment program.

Colorectal cancer (CRC) starts with a growth, called a polyp, which is not cancer. Screening can find and remove growths before they become cancerous. The greatest risk factor for CRC is age, and it is generally recommended that men and women talk with their doctor and get a screening test beginning at age 50. However, several lifestyle risk factors have been linked to colorectal cancer, such as diet, physical inactivity, obesity, smoking, and heavy alcohol use.¹¹⁵ Screening has a proven benefit for the early detection of colorectal cancer and reduction of deaths.

Burden of Colorectal Cancer

Colorectal cancer is the fifth most common cancer in Washington State. In 2006, 2,737 Washington residents were diagnosed with CRC and 924 people died of the disease. It is the second leading cause of cancer deaths in Washington.¹¹⁶



Survival rates improve with early diagnosis. According to 2005 national data, more than 90% of CRC patients diagnosed early are alive five years later. When the disease is diagnosed at more advanced stages, about 89% of patients die within five years, which means regular screening and early diagnosis are critical.^{117,118}

Disparities in the Burden

Incidence rates of CRC rise rapidly after age 50, and are higher for men than women. African Americans, American Indians, and Alaska Natives had higher incidence rates of CRC. Asian and Pacific Islanders had similar incidence rates compared to whites. Hispanics had similar rates of newly diagnosed colorectal cancer compared to non-Hispanics.¹¹⁶

Colorectal cancer deaths increase sharply with age. CRC mortality rates in Washington were highest for African Americans, followed by American Indians and Alaska Natives, whites, and Asian and Pacific Islanders. Hispanics had lower rates and were similar to non-Hispanics.¹¹⁹

2006 Incidence and Mortality age-adjusted Rates per 100,000 for Colorectal Cancer (Source: BRFSS)		
Gender, Age, Race and Ethnicity	Incidence	Death
Men	50.4	17.4
Women	37.9	12.5
Men+Women over 50*	43.5	14.7
African Americans*	52.0	24.0
American Indians/Alaska Natives*	66.3	18.1
Asian Pacific Islanders*	41.8	14.8
Whites*	44.6	15.3
Hispanics*	39.3	13.8
Non-Hispanics*	45.4	15.5

*2004-2006 combined

Disparities in the Burden - Screening Rates

Washington 2006 BRFSS data show that only 60% of people aged 50 and older have been screened through FOBT in the past year, a flexible sigmoidoscopy in the past five years, or a colonoscopy in the past 10 years.¹²⁰ However, rates vary based on race and ethnicity. For instance, whites age 50 and older are more likely than American Indian or Alaskan Natives to have a colonoscopy or sigmoidoscopy (62% and 49%, respectively). Fewer African Americans aged 50 and older have ever had an FOBT than whites (45% and 59%, respectively). Asians have higher rates for each screening modality than both American Indian or Alaskan Natives and African Americans (53% and 47%, respectively).

Washington has the capacity to screen more people through both FOBT/FIT and endoscopic procedures. According to the 2004 Washington Survey of Endoscopic Capacity results, all regions of the state were expected to reach a surplus capacity of these tests by 2006.¹²¹

Access to health care poses significant barriers for segments of the population, putting many at risk for colorectal cancer that may go undiagnosed. Only 28% (5%) of uninsured adults age 50 and older reported current colorectal cancer screening. Similarly, only 27% (3%) of those without a personal healthcare provider and 49% (3%) of those with low annual household incomes (<\$25,000) reported current colorectal cancer screening.

Fear is another significant barrier to colorectal cancer screening. Although modern technology and procedures have reduced discomfort and unpleasantness, however it is important to address fears and provide support so people feel able to follow through with screening. Physician practices can create barriers to screening as well. For example, although a physician recommendation significantly increases the likelihood that a patient will receive screening, a survey of primary care physicians in Washington indicated that only about three-fourths recommend at least one colorectal cancer screening test in agreement with current guidelines.¹²²

Screening Tests

Screening tests commonly used for early detection of colorectal cancer include the fecal occult blood test (FOBT), the fecal immunochemical test (FIT), flexible sigmoidoscopy, and colonoscopy. Virtual colonoscopies and DNA stool tests have recently become available. Double contrast barium enemas may also be effective, but are rarely used. More information regarding types of tests can be found online at the American Cancer Society (ACS) website at www.cancer.org.¹²³

Colorectal cancer screening recommendations were revised in 2008. The U.S. Preventative Services (USPSTF) recommends routine screening for men and women ages 50 to 75, and recommends no screening after 85. Screening options recommended for detecting CRC and adenomatous polyps for adults without symptoms include: annual high-sensitive FOBT (Hemocult SENSA, FIT), flexible sigmoidoscopy every five years with high-sensitivity FOBT every three years, or colonoscopy every ten years.¹²⁴

The ACS agrees with the USPSTF that routine screening begin at age 50 for men and women, but they do not recommend that screening stop at a specific age. They strongly recommend

colonoscopy over other options, which is significantly different from the USPSTF Guidelines. Error! Bookmark not defined.

ACS also recommends the following screening options:

- Flexible sigmoidoscopy every 5 years
- CT colonography (virtual colonoscopy) every 5 years
- Fecal occult blood test (FOBT) every year
- Fecal immunochemical test (FIT) every year
- Stool DNA test (sDNA), interval uncertain

People should talk to their doctors about starting colorectal cancer screening earlier and/or undergoing screening more often if they have any of the following colorectal cancer risk factors: a personal or family history of colorectal cancer or adenomatous polyps; a personal history of chronic inflammatory bowel disease; or a known family history of hereditary colorectal cancer syndromes (familial adenomatous polyposis, hereditary nonpolyposis, Puetz-Jeghers syndrome).¹²⁵

Current Activities to Promote Screening

The Colorectal Cancer Task Force, established in 2001, focuses on increasing screening rates for colorectal cancer in all populations across the state. Examples of task force projects include:

- Funding and evaluating projects to identify provider and consumer barriers to screening;
- Collaborating with partners to boost reach in educational campaigns and events;
- Initiating the start-up of the Washington Colon Cancer S.T.A.R.S (Support, Treatment, Awareness, Resources, and Screening), a community-based non-profit organization dedicated to increasing screening rates, assisting patients, promoting collaborative partnerships, and broadening resources to underserved populations. Their approach to screening is “the best test is the one you get;”
- Conducting over-sampling of BRFSS analyses to examine additional barriers to screening in Washington.

In 2005, Public Health – Seattle & King County (PHSKC) was one of five programs in the U.S. to receive CDC funding to develop a replicable, clinic and community-based system to increase CRC screening among low-income adults aged 50 and older with little or no insurance coverage. The project is a comprehensive CRC community recruitment, education and screening program with access to treatment, and is linked to the very successful Breast, Cervical and Colon Health Program (BCCHP) and Washington CARES About Cancer Partnership. The project concluded in the fall of 2009.

In August 2009, the Washington State Department of Health received funding from the CDC to continue the work of PHSKC Demonstration Project. Along with state funds, the BCCHP provides CRC screening to low-income adults aged 50 and older who are asymptomatic. However, this program differs from the Demonstration Project in that a majority of the CDC funding is dedicated to education and outreach to all Washingtonians. The goal of the national program is to increase CRC screening nationwide to 80% by 2014. The BCCHP will contribute to achieving this goal through strengthened collaboration with the Washington CARES About

Cancer Partnership, the Washington State Patient-Centered Medical Home Collaborative, and Healthy Communities Washington.

House Bill 1337 was signed into law by Governor Christine Gregoire on April 10, 2007. This law (RCW 48.43.043) mandates that health plans issued or renewed after July 1, 2008 cover colorectal cancer screenings according to USPSTF recommendations. Since 2005, the Washington State Legislature passed resolutions recognizing the month of March as Colorectal Cancer Awareness Month. In July of 2008, the Legislature elected to expand PHSKC's screening program and funded the Department of Health to implement screening services statewide, but funding was eliminated in 2009 due to economic conditions.

With a grant from the Prevent Cancer Foundation, Washington State Department of Health coordinated a statewide leadership summit, "Preventing Colon Cancer in all Communities: A Washington Dialogue for Action," in September 2008. The goal of the summit was to identify new opportunities to increase screening and treatment services for all populations in Washington, with a special focus on the underserved. The CRC Task Force is currently implementing recommendations from the summit.

Effective Interventions to Promote Screening for Colorectal Cancer

The Centers for Disease Control and Prevention's (CDC) Guide to Community Preventive Services (<http://www.thecommunityguide.org>) makes recommendations regarding education and policy guidelines to promote screening for colorectal cancer. The recommendations are based on systematic reviews of scientific literature that presents evidence of an intervention's effectiveness.¹²⁶ Examples of effective interventions include:

- Client and provider reminders
- Provider assessment and feedback
- Small media, such as videos and printed materials (brochures, letters, newsletters)
- Reducing structural barriers

¹¹⁵ American Cancer Society. *What Are The Risk Factors For Colorectal Cancer*. 2009.

http://www.cancer.org/docroot/CRI/content/CRI_2_4_2X_What_are_the_risk_factors_for_colon_and_rectum_cancer.asp

¹¹⁶ Washington State Cancer Registry. *Washington State Cancer Incidence/mortality*. 2006. Olympia, WA.

<https://fortress.wa.gov/doh/wscr/WSCRQuery.aspx>.

¹¹⁷ Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 17 Regs Limited-Use + Hurricane Katrina Impacted Louisiana Cases, Nov 2007 Sub (1973-2005)

¹¹⁸ Keitheri-Cheteri, Mahesh (2008). *Colorectal Cancer Survival Analysis Project*. Incidence data 1992-2004.

¹¹⁹ Washington State Department of Health, Vital Registration System. *Washington State death certificate data: Annual Statistical Files*. 1980-2006, released December 2008.

¹²⁰ Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. 2009. Olympia, WA.

http://www.doh.wa.gov/EHSPHL/CHS/CHS-Data/brfss/brfss_tables.htm

¹²¹ Manninen D, Dong F, Wings L. *Washington Survey of Endoscopic Capacity*. 2006. Battelle Centers for Public Health Research and Evaluation, Seattle, Washington.

¹²² Hannon, P.A., Martin, D.P., Harris, J.R., & Bowen, D.J. *Colorectal cancer screening practices of primary care physicians in Washington State*. *Cancer Control*, April 2008, Vol. 15, No. 2

¹²³ American Cancer Society. *Guidelines for the Early Detection of Cancer*. May 11, 2009.

http://www.cancer.org/docroot/ped/content/ped_2_3x_acs_cancer_detection_guidelines_36.asp.

¹²⁴ U.S. Preventative Services Task Force (USPSTF).

<http://www.ahrq.gov/CLINIC/USPSTF08/colocancer/colors.htm>

¹²⁵ American Cancer Society. *Colorectal Cancer: Early Detection*. May 11, 2009.

http://www.cancer.org/docroot/CRI/content/CRI_2_6X_Colorectal_Cancer_Early_Detection_10.asp?from=colontesting.

¹²⁶ U.S. Centers for Disease Control and Prevention. *Guide to Community Preventive Services, Cancer Prevention and Control*. February 10, 2009. May 7, 2009. <http://www.thecommunityguide.org/cancer/index.html>

Prostate Cancer

Goal 10: Improve informed decision making between men and their providers regarding prostate cancer screening and treatment.

GOAL
10

- **Objective 10.1: By 2013, increase the percentage of men age 50-75 (age 45-75 for African American men) who have talked with their provider about screening for prostate cancer to 60%.**

Baseline: 55.5% Data Source: 2006 BRFSS

Strategies

- Assess currently available resources for developing interventions to promote awareness (provider and community) and informed decision making.
- Identify or develop effective training programs aimed at enhancing health care professionals' knowledge and available resources, including culturally appropriate communication tools, involving prostate cancer screening issues.
- Identify or develop interventions to promote informed decision making.
- Encourage men with a family history of prostate cancer or of African-American descent to consult their health care provider and participate in shared decision making regarding prostate cancer screening.
- Continue to monitor the science and organizational recommendations regarding prostate cancer screening.

- **Objective 10.2: By 2013, increase the number of health care providers and men diagnosed with early stage prostate cancer that receive information to support informed decision making regarding all relevant treatment options for early stage prostate cancer.**

Baseline: Process measure

Strategies

- Provide decision aid tools that allow patients to learn about each type of prostate cancer treatment.
- Provide educational opportunities for health care providers to encourage the facilitation of informed decision making.
- Encourage men who have early stage prostate cancer to consult their health care provider and participate in shared decision making regarding prostate cancer treatment.

- **Objective 10.3: By 2013, increase the number of health care providers and men with advanced prostate cancer (raising PSA after primary treatment and/or**

other diagnostic indicators) that receive information on all relevant options, including clinical trials, to support informed decision making regarding treatment for advanced prostate cancer.

Baseline: Process Measure

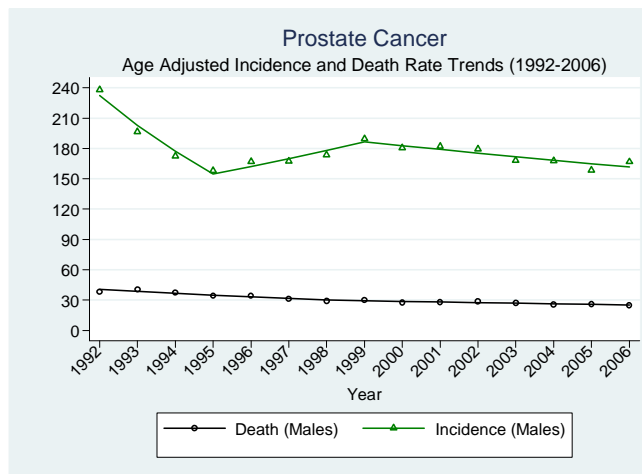
Strategies

- Research and distribute decision aid tools addressing informed decision making specifically addressing advanced prostate cancer.
- Provide educational opportunities for health care providers to encourage the facilitation of informed decision making.
- Encourage men who have advanced prostate cancer to consult their health care provider and participate in shared decision making regarding prostate cancer treatment.

Prostate cancer screening can potentially identify cancer in an early stage, although the benefits and drawbacks associated with such screening continue to be controversial. It is important for all men to know current information regarding screening options, including potential advantages and disadvantages. Prostate-specific antigen testing (PSA) and digital rectal examination (DRE) are the two primary methods of prostate cancer screening. Although evidence for the effectiveness of screening is insufficient, PSA testing in combination with DRE is currently the best approach available for the early detection of prostate cancer.

Burden of Prostate Cancer

Prostate cancer is the most common non-skin cancer and second leading cause of cancer death in men. Washington State Cancer Registry (WSCR) data indicate that in 2006, 4,865 new cases of prostate cancer were diagnosed. Prostate cancer accounted for 610 Washington deaths. Since 1992, the incidence rate of prostate cancer among men in Washington has decreased from an age-adjusted rate of 236.5 per 100,000 in 1992 to 166.9 per 100,000 in 2006. Death rates have declined over the same time period from 38.2 per 100,000 in 1992 to 25.1 per 100,000 in 2006.¹²⁷ The use of early detection tests for prostate cancer became fairly common starting in the early 1990’s, but it is not clear if this drop is a direct result of screening or related to improvements in treatment.¹²⁸



Disparities

There are significant racial disparities in the incidence and death rates of prostate cancer in Washington. According to WSCR, the age-adjusted incidence rate for African American men is significantly higher than white men (252.2 per 100,000 and 159.2 per 100,000 respectively); the rate for Asian and Pacific Islanders is significantly lower (96.7 per 100,000). The rates for American Indian and Alaska Natives and Hispanics are slightly lower than the state average. Disparities in death rates are even more obvious, with African American men in Washington having death rates almost double the rate of white men and more than double other racial and ethnic groups. This is consistent with African American men having the highest death rate from prostate cancer in the world.¹²⁷

Evidence of Screening Effectiveness

An ongoing controversy exists over the effectiveness of PSA testing in reducing death from prostate cancer, and the evidence is still evolving regarding the benefit of prostate cancer screening. Although prostate cancer screening may lead to the early detection of cancer, scientific evidence does not clearly show that lives are saved through regular screening of men without symptoms. Screening may lead to unnecessary medical procedures, emotional distress, and financial costs for a man and his family.

Though population-level screening is not currently recommended by professional organizations such as the U.S. Preventive Services Task Force (USPSTF), major organizations agree that the decision to screen should be made between men and their physicians. The American Urological Association (AUA) strongly supports informed consent before screening be undertaken and the option of “watchful waiting,” instead of immediate treatment, for certain men found to have prostate cancer.¹²⁹ The American Cancer Society (ACS) suggests that doctors should discuss the advantages and disadvantages of testing with men so each man can decide if testing is right for him.¹³⁰ The Centers for Disease Control and Prevention (CDC) and other federal agencies follow the prostate cancer screening guidelines set forth by the USPSTF.¹³¹

Current Activities Addressing Prostate Cancer

The Washington State Department of Health receives funding from the CDC to initiate activities to address prostate cancer in Washington. BRFSS includes questions regarding prostate cancer screening as part of the core questionnaire. Additional questions measuring provider counseling were included in the 2006 survey. According to this data, 55% of men over 40 reported that their healthcare provider ever talked to them about prostate cancer screening tests. Of the men that reported having a PSA test, only 32% reported that their doctor discussed possible treatments if cancer was found.¹³² Education materials about talking with a healthcare provider about screening were created and a distribution plan was developed to address this need.

The Center for Multicultural Health produced a video, “Let’s Talk About It,” specifically targeting African American men. The Seattle Institute of Biomedical and Clinical Research is conducting a pilot study to test an educational intervention to facilitate informed decision making regarding prostate cancer treatment. Other statewide organizations involved in prostate cancer include the Washington State Urology Society, Washington State Prostate Cancer Coalition, and Us TOO.

Gaps

According to the USPSTF, there is currently insufficient evidence to recommend for or against prostate cancer screening under the age of 75. They recommend against screening over the age of 75.¹³¹ Continued research is needed, and ongoing clinical trials must be supported to provide more conclusive evidence on the health outcomes of prostate cancer screening. In particular, studies are needed to determine whether screening prolongs or enhances the quality of life. There is also no consensus on the best treatment for prostate cancer. Here, too, more research is needed to measure the effectiveness of various treatment options and its impact on prolonging life and quality of life. There are also gaps in general knowledge regarding effective approaches for promoting informed decision making. More studies of interventions for community members outside of or within health care settings are needed to determine the value of this approach.

¹²⁷ Washington State Cancer Registry. *Washington State Cancer Incidence/mortality*. 2006. Olympia, WA. <https://fortress.wa.gov/doh/wscr/WSCRQuery.aspx>

¹²⁸ American Cancer Society. *Can Prostate Cancer be Found Early*. May, 2009. http://www.cancer.org/docroot/CRI/content/CRI_2_4_3X_Can_prostate_cancer_be_found_early_36.asp?sitearea=

¹²⁹ American Urological Association. *Policy-Early Detection of Prostate Cancer*. April 2009. <http://www.auanet.org/content/guidelines-and-quality-care/policy-statements/e/early-detection-of-prostate-cancer.cfm>

¹³⁰ American Cancer Society. *How is Prostate Cancer Found*. May 2009. http://www.cancer.org/docroot/CRI/content/CRI_2_2_3X_How_is_prostate_cancer_found_36.asp?sitearea=

¹³¹ U.S. Preventive Services Task Force. *Screening for Prostate Cancer*. August 2008. www.ahrq.gov/clinic/uspstf/uspsprca.htm.

¹³² Washington State Department of Health. *Behavioral Risk Factor Surveillance System*. 2009. Olympia, WA.

Survivorship

Goal 11: Increase awareness, availability and use of survivorship, palliative care and end-of-life services for all Washingtonians.

GOAL
11

● **Objective 11.1: By 2013, establish baseline measurement of availability and use of survivorship, palliative care, and end-of-life services.**

Baseline: To be established

Strategies

- Strengthen networking opportunities for people and agencies interested in survivorship, palliative care and end of life issues.
- Identify appropriate data measures.

Objective 11.2: By 2013, after baseline measures are identified, increase patient and provider knowledge and use of resources, including survivor care plans.

Baseline: To be established

Strategies

- Increase patient and provider knowledge of available survivorship programs and resources.
- Promote use of survivorship resources by patients and providers.
- Increase education about and utilization of survivor care plans.

Cancer is the second leading cause of death among adults in the United States.¹³³ Although much attention has been given to early detection, prevention, and control of cancer, efforts to address cancer survivorship are relatively new. Recent innovations in medical technology have led to earlier diagnoses and better treatment of most cancers. As a result, more people diagnosed with cancer are living and surviving.¹³⁴ The term, "cancer survivor," refers to those who have been diagnosed with cancer and the people in their lives who are affected by the diagnosis, including family members, friends, and caregivers.

Survivors face numerous physical, emotional and psychological, social, spiritual, and financial challenges at diagnosis, during treatment, and for the remaining years of their lives. Many of these challenges could be successfully addressed through coordinated public health initiatives.

Issues Faced by Cancer Survivors

Due to advances in the early detection and treatment of cancer, more people are living for many years after a diagnosis. As of 2006, about 12 million people with a previous diagnosis of cancer were living in the United States.¹³⁵ Approximately 66% of people diagnosed with cancer are expected to live at least five years after diagnosis. There are however, disparities in the impact access to health care has on survival. Low-income men and women who have inadequate or no health insurance coverage are more likely to be diagnosed with cancer at later stages, when survival times are shorter.¹³⁶

There is a need to address survivorship and quality of life issues such as the coordination of care, patient-provider communication, palliative care, pain management, and fertility preservation. In light of these concerns, public health initiatives aimed at understanding and preventing secondary disease, recurrence, and the long-term effects of treatment are essential.¹³⁷

Cancer is more often viewed as a chronic disease, a long-term illness that can be treated, if not cured.¹³⁷ While health professionals and researchers have learned a great deal about treatment, they are in the early stages of learning what kinds of care may be needed throughout survivorship. For example, dealing with stress and anxiety, adequate management of pain and side effects of treatment, and timely referral to end-of-life care, such as hospice, is frequently problematic and inadequate.

Findings from a recent *Livestrong* online poll show that 49% of cancer survivors identified unmet survivorship support needs after their treatment. Of particular concern are patients' perceptions of the reasons their needs went unmet; specifically patients felt their oncologists were either unwilling or unable to properly address their needs. In a survey of oncologists, while 74% felt it their role to provide continuing care to survivors, only 31% actually provided health maintenance, screenings and preventative services.¹³⁸

Remembering that each person with cancer is unique, the issues cancer survivors may face are numerous, difficult, and stressful. These issues may be temporary or long-term, perhaps lasting for the rest of a survivor's life. Some of these issues include:¹³⁹

- Diagnostic tests and a diagnosis
- Treatments such as surgery, radiation, and chemotherapy
- Physical effects of cancer itself and/or its treatment may include:
 - Increased pain from the cancer or treatment
 - Illness stemming from the treatments
 - Temporary or permanent disability
 - Decreased sexual functioning and/or loss of fertility
 - Persistent swelling of limbs of the body
 - Fatigue
 - Changes in body functions
 - Appearance changes
 - Recurrence of the original disease
 - New cancers
 - Premature aging
 - Organ/systems failure, such as heart attacks
 - Becoming ill from the treatments
- Financial problems from inability to stay fully employed and/or high costs of treatment
- Discrimination from employers and insurance companies for health or life insurance (survivors may be excluded from coverage due to cancer as a “preexisting condition”)
- Potential bankruptcy, loss of home
- Relationship changes: Major changes and disruption in relationships and the lives of family members and caregivers

- Spiritual changes, whether coming from beliefs tied to formal religion or from their own values, meaning, etc
- Psychological challenges may arise in dealing with any of the stressors listed above and survivors may experience occasional or chronic feelings such as those listed below:
 - Sense of despair and/or loss of control
 - Helplessness, hopelessness, depression
 - Feelings such as rage, anger, fear, sadness and grief over many losses (such as a sense of immortality that many live with, loss of the previous abilities, changes to their body)
 - Sense of guilt due to not wanting to be a “burden” to their families
 - Loneliness whether or not they have family or friends around them due to the personal nature of their cancer experience, not wanting to let others know the extent of their vulnerability, physical or emotional pain
 - Isolation due to being separated from the world, bed rest, being home bound, inability to drive, and awkwardness about interacting socially they and/or their friends and family may experience

Many of these issues faced by individual cancer survivors require some kind of special care, support or assistance. A few of these types of care include: psychosocial services, palliative care, and end-of-life care. These services are briefly outlined below.

Psychosocial Services

Psychosocial services provide support for patients and family members following a diagnosis of cancer. Each person should be assessed at the point of diagnosis and beyond for her or his unique needs. Some of the services include: facilitating effective communication between patients and care providers; designing and implementing a survivor care plan based on the needs that connects the patient and family with medical and mental, physical and social needs; engaging and supporting patient in managing their illness and health; regularly following up and revising the plan as needed.

Survivors each bring different social factors that interact with their physical and emotional life. For example, some people have tremendous support and care from a large network of family or friends; others are isolated and have little or no support for dealing with their physical, emotional, spiritual and financial needs. Psychosocial services focus on providing support to each individual based on the person’s individual process, needs, and social factors.¹⁴⁰

Some specific psychosocial services that survivors may need include:¹⁴¹

- Orientation to the clinic and/or hospital where treatment will occur
- Education regarding cancer and its treatment
- Provision of emotional support (counseling, support groups)
- Training in coping skills
- Challenging unhelpful thoughts
- Stress reduction and relaxation training

Palliative Care

Palliative care provides service that aims to reduce suffering and provide the best possible quality of life for patients and their families when they have physical limitations due to accidents, illness, and post-surgery recovery. Palliative care seeks to relieve psychological, social, physical and spiritual pain or distress at any stage of an illness or recovery process. Pain control is a major aspect of palliative care. It is important to note that palliative care can be offered at the same as life prolonging and cure focused treatments for persons living with serious, complex, and eventually terminal cancer.¹⁴²

Among other services, palliative care includes:

- Assessing and treating symptoms
- Reducing or eliminating pain
- Aiding patients and their family caregivers with decision making and goal setting
- Providing practical support for patients and their family caregivers
- Activating community support and resources to assure a secure and safe living environment
- Collaborative and seamless care in varied settings (hospital, home, nursing homes, and hospice)

In addition, palliative care should include either direct assistance or referrals that can help people with completing legal documents and documents that describe the patient's wishes such as: An Advanced Directive (sometimes referred to as "Durable Power of Attorney for Health and Living Will), Power of Attorney, wills, trusts, and "Do Not Resuscitate Orders" (if desired). It is very important that the patient also discuss these issues with their families and care providers. An Advanced Directive is a legal document that allows the patient to specify which medical services should be administered and/or to appoint someone to make medical decisions on their behalf should a situation arise in which the patient is unable to communicate with medical providers. Advanced Directives seek to provide patient autonomy during the vulnerable moments preceding death.

Barriers to Cancer Pain Management

A wide range of pain management therapies are available, and evidence shows that 85–90% of cancer pain can be controlled by using the guidelines of the World Health Organization. Nevertheless, only 50% of pain control is achieved in cancer patients.¹⁴³

Barriers that interfere with adequate pain management have been broadly classified as problems related to:¹⁴⁴

- Health care professionals:
 - Poor pain assessment and inadequate knowledge¹⁴⁵
 - Anxiety about regulation of controlled substances, concerns about the side effects of analgesics, and fear of patients becoming addicted or tolerant
- Patients:
 - May not complain of pain for a variety of reasons (want to be a "good" patient, think that pain is inevitable, fear that early pain control will make less effective later on, fear of addiction)

- Health care system:
 - Strict regulatory environment that closely monitors prescribing practices further contributes to under treatment of cancer pain
 - Due to concerns about regulatory scrutiny, many physicians reduced the drug dose or quantity, number of refills, or select lower schedule drug
 - Pain for cancer is given a low priority in training
 - High cost, access to care, ethical and legal issues

End-of-Life

End-of-life care supports people diagnosed with cancer and their families through the entire dying process while respecting the autonomy and self determination of the patient. End-of life care includes: support services and medical care for patients; support for their families; pain management, assistance for dealing with legal and ethical issues, care giving for a person who is medically fragile, and spiritual support services.

Important aspects of end-of-life care include the availability of hospice care and the opportunity to complete an advanced directive. Hospice care focuses on managing pain and other symptoms without attempting to cure, while also offering emotional, psychological, and spiritual support to both the patient and their loved ones. Today, one out of three people in the United States choose hospice care when they are dying. Families need to understand hospice care and the steps necessary to access this quality end-of-life option.¹⁴⁶

End-of-life care is unique. While palliative care can be used at the same time as the patient continues treatments for a cure, end-of-life care begins when the focus changes from an attempt to extend life to ensuring maximal comfort only. Good communication between patient, provider, and family members prior to and during end-of-life is extremely important during this phase of life.

It is strongly recommended that legal and other paper work, such as advanced directives, are completed prior to the end-of-life stage. At this stage, the patient may not be able to focus on these issues. Discussions to remind physicians and family members of the patient's wishes may help increase the likelihood that the patient's wishes are honored. Ensuring as much patient autonomy as possible should be an overriding goal throughout end-of-life cancer care.

Current Activities Around End-of-Life

On November 4, 2008, residents of Washington voted and passed the Death with Dignity Act. This Act allows terminally ill adults who meet the eligibility requirements and want to end their life to request lethal doses of medication from physicians. To be qualified, terminally ill patients must: be a competent adult who is a Washington resident suffering from a terminal illness that will lead to death within six months; make an initial oral request; make a written request (with two qualified witnesses); and then make a second oral request after at least fifteen days. If approved by the doctor, the doctor is authorized to prescribe medication that the patient may voluntarily self-administer to end their life, if and when they chose to do so. Additional screenings and approvals are needed if the individual is suffering from depression and/or other issues. The law requires that the Department of Health collect reported data, ensure the quality of the data, and provide an annual statistical report.¹⁴⁷

This Act was based closely on the Oregon Law that has been in place since 1997. The State of Oregon's 2008 report stated that a total of 401 patients have died under the terms of that law since its inception. Many others have gone through the requesting process, but did not use the medication to end their lives.

¹³³ American Cancer Society. *Cancer Statistics 2008*. 2009.

http://www.cancer.org/docroot/PRO/content/PRO_1_1_Cancer_Statistics_2008_Presentation.asp.

¹³⁴ Centers for Disease Control and Prevention. *What CDC is Doing: Survivorship*. 2009.

http://www.cdc.gov/cancer/survivorship/what_cdc_is_doing/action_plan.htm#1.

¹³⁵ Ries LAG, Melbert D, Krapcho M, Mariotto A, Miller BA, Feuer EJ, Clegg L, Horner MJ, Howlander N, Eisner MP, Reichman M, Edwards BK (eds). *SEER Cancer Statistics Review, 1975–2005*. National Cancer Institute. Bethesda, MD, based on November 2007 SEER data submission, posted to <http://seer.cancer.gov>, 2008.

¹³⁶ Schwartz KL, Crossley-May H, Vigneau FD, Brown K, Banerjee M. *Race, socioeconomic status and stage at diagnosis for five common malignancies*. *Cancer Causes & Control* 2003;14(8):761–766.

¹³⁷ Centers for Disease Control and Prevention and, Lance Armstrong Foundation (LAF). *The National Action Plan for Cancer Survivors, "The Problem."* 2009.

¹³⁸ Survivorship, the Institute of Medicine and National Research Council, *From Cancer Patient to Cancer Survivor, Lost in Transition*, Washington, D.C.: The National Academies Press, 2006; Ganz PA, et al., "A Teachable Moment for Oncologists: Cancer Survivors, 10 Million Strong and Growing!" *Journal of Clinical Oncology*, 2005, 23: 5,458–5,460).

¹³⁹ Robert Wood Johnson, Publications and Research, www.rwjf.org/pr/topic.jsp?topicid=1194

¹⁴⁰ Center for Advancing Health, Jun 8, 2009, Alliance for Quality Psychosocial Cancer Care, IOM Report *Cancer Care for the Whole Patient*. October 2007.

¹⁴¹ jco.ascopubs.org and provided by NIH LIBRARY on May 10, 2007 from 128.231.88.5.

¹⁴² National Palliative Care Research Center (NPCRC), Mount Sinai School of Medicine

¹⁴³ World Health Organization. *Cancer pain relief and palliative care*, 2nd ed. Geneva: 1996

¹⁴⁴ World Health Organization, *Global Year Against Cancer Pain*, (Oct. 2008-Oct. 2009)

¹⁴⁵ Cleeland CS, Cleeland LM, Dar R, Rinehardt LC. *Factors influencing physician management of cancer pain*. *Cancer*. 1986;58:796–800.

¹⁴⁶ Hospice Foundation of America

¹⁴⁷ Center for Health Statistics, Washington State Department of Health. <http://www.doh.wa.gov/dwda/>

Clinical Trials

Goal 12: Promote awareness of, access to, and participation in cancer clinical trials particularly among minorities and the medically underserved.

GOAL
12

- **Objective 12.1: By 2013, increase the number of cancer patients who participate in appropriate clinical trials.**

Data Source: To be established

Strategies

- Identify and address issues around barriers that prevent participation in clinical trials.
- Pass legislation that would mandate private and public health plans to pay the cost of routine medical care patients receive as a participant in a clinical trial.
- Explore methods to increase the number of patients enrolling in clinical trials.
- Explore ways to increase the breadth and number of clinical trials open in Washington State.

- **Objective 12.2: By 2013, increase visibility of existing clinical trial resources and recruitment best practices.**

Data Source: To be established

Strategies

- Develop a process to educate all newly diagnosed cancer patients about the availability of clinical trials before treatment decisions are made.
- Develop materials relevant to all facilities statewide, which provide resources and guidelines for patients to discuss clinical trials with their cancer treatment provider.
- Develop relationships with key medical providers and their staff throughout the state to educate them on clinical trials and their availability.

Clinical trials are research studies in which people help doctors find ways to improve health and cancer care. Each study tries to answer scientific questions and to find better ways to prevent, diagnose, or treat medical conditions. The goal is to determine whether promising approaches to prevention, diagnosis, and treatment are safe and effective. For cancer patients, properly designed and conducted clinical trials represent an important therapeutic option, as well as a critical means of advancing medical knowledge.

Most of the best cancer treatments we have today are because of what was learned from clinical trials. Progress made in childhood cancer treatment is due, in part, to clinical trials. This is because 60% of children with cancer (under the age of 15) are enrolled in a clinical trial. A ten percent drop in death due to breast cancer for women under age 50 is attributed to clinical trials research in the 1970's. Cancer clinical trials offer patients access to new therapies that can save lives, particularly for those who have exhausted all other forms of standard cancer treatment.¹⁴⁸

¹⁴⁸ *Clinical Trials: What Are States Doing.* August 2008. Internet. National Conference of State Legislatures. <http://www.ncsl.org/default.aspx?tabid=1433>. 2009.

Disparities

Of the approximately 10 million adults who have cancer in the United States (U.S.), only about 3-5% of adults with cancer in the United States (U.S.) participate in clinical trials.¹⁴⁹ There are a variety of reasons for this low participation, including:^{149,150}

- Lack of awareness
- Lack of access
- Strict study design eligibility criteria
- Fear or distrust
- Practical barriers
- Physician knowledge, awareness, or perception
- Cost

Fear of losing health insurance prevents many cancer patients from considering clinical trials as a viable treatment option. Health insurance companies may or may not continue to cover the cost of routine medical care for patients enrolled in a clinical trial, despite evidence that the cost of medical care for these patients was not significantly higher than patients not enrolled in clinical trials.^{151,152} For those plans that will cover costs, the level of coverage varies.¹⁵¹

As it is well documented that the burden of cancer falls disproportionately on the medically underserved, recent studies have shown that the medically underserved are also underrepresented in clinical trials.^{150,153} For instance, while 61% of new cancer cases occurred among the elderly, only 25% of participants in national clinical trials were over the age of 65.¹⁵⁴ In adolescents, only 10% of 15-19 year old cancer patients entered clinical trials, compared to 60% under the age 15.¹⁵⁰ Racial and ethnic groups, people living in rural areas, and women have also been shown to be underrepresented.^{155,156,157}

Gaps

Many states do not have laws that mandate coverage of clinical trials. By the fall of 2009, 27 states had enacted such laws; however, Washington State was not one of them. While some private and public health insurance plans in Washington State cover medical costs of patients enrolled in clinical trials, not all do. Inconsistent coverage creates an environment of unequal access to clinical trials, which can be a significant barrier to patients who might otherwise enroll in a trial. While there is some initial evidence of support for such legislation, there has not been a widespread movement to encourage the passage of such a bill. This is due to the lack of a coordinated effort, as well as the current economic climate.

While there has been a greater emphasis on recruitment of underrepresented populations, strategies have fallen short in recruiting these populations in sufficient proportions.^{vi,158,159} There needs to be more emphasis put on designing and evaluating recruitment strategies that intend to reach underrepresented populations. More research is needed to better understand the barriers to participation.

¹⁴⁹ *Cancer Clinical Trials: Participation by Underrepresented Populations*. Intercultural Cancer Council. <http://iccnetwork.org/cancerfacts/ICC-CFS11.pdf>. 2009.

¹⁵⁰ *Cancer Clinical Trials: The In-Depth Program*. National Cancer Institute.

<http://www.cancer.gov/clinicaltrials/resources/in-depth-program/page7>. 2002.

¹⁵¹ Goldman DP, Berry SH, McCabe M, et al. Incremental Treatment Costs in National Cancer Institute-Sponsored Clinical Trials. *JAMA*. 2003;289(22):2970-2977 (doi: 10.1001/jama.289.22.2970)

<http://www.jama.ama-assn.org/cgi/reprint/289/22/2970.pdf>

¹⁵² Fireman BH, Fehrenbacher L, Gruskin EP, Ray GT. Cost of care for patients in cancer clinical trials. *J Natl Cancer Inst* 2000; 92:136-42 <http://jnci.oxfordjournals.org/cgi/reprint/92/2/136>.

¹⁵³ Ford JG, Howerton MW, Bolen S, et al. Knowledge and Access to Information on Recruitment of Underrepresented populations to Cancer Clinical Trials. Summary, Evidence Report/Technology Assessment No. 122. (Prepared by the Johns Hopkins University Evidence-based Practice Center under Contract No. 290-02-0018.) AHRQ Publication No. 05-E019-1. Rockville, MD: Agency for Healthcare Research and Quality. June 2005.

<http://www.ahrq.gov/clinic/epcsums/recruitsum.pdf>.

¹⁵⁴ Lewis JH, Kingore ML, goldman DP, et al. Participation of patients 65 years of age or older in cancer clinical trials. *Journal of Clinical Oncology*. 2003. 21(7):1383-1389. <http://jco.ascopubs.org/cgi/reprint/21/7/1383>.

¹⁵⁵ Du W, Gadgeel SM, Simon MS. Predictors of Enrollment in Lung Cancer Clinical Trials. *Cancer*. 2006.

106(2):420-425. <http://www3.interscience.wiley.com/cgi-bin/fulltext/112183643/PDFSTART>.

¹⁵⁶ Stewart JH, Bertoni AG, Staten JL, Levine EA, Gross CP. Participation in surgical oncology clinical trials: gender-, race/ethnicity-, and age-based disparities. *Ann Surg Oncol*. 2007. 14(12):3328-3324.

¹⁵⁷ Sateren WB, Trimble EL, Abrams J, et al. How sociodemographics, presence of oncology specialists, and hospital cancer programs affect accrual to cancer treatment trials. *Journal of Clinical Oncology*. 2002. 20(8):2109-2117.

¹⁵⁸ Moinpour CM, Atkinson JO, Thomas SM, et al. Minority recruitment in the Prostate Cancer Prevention Trial. *Annals of Epidemiology*. 2000. 10(8 Suppl) : S85-91.

¹⁵⁹ Christian MC, Trimble EL. Increasing participation of physicians and patients from underrepresented racial and ethnic groups in National Cancer Institute-sponsored clinical trials. *Cancer Epidemiology Biomarkers and Prevention*. 2003. 12(3) : 277s-283s.

Resources for Implementation

The following are resources for implementing strategies aimed to reach the goals and objectives of the Comprehensive Cancer Control Plan.

● **The Guide to Community Preventive Services (“The Community Guide”)**

<http://www.thecommunityguide.org/index.html>

The Guide to Community Preventive Services is a free resource to help you choose programs and policies to improve health and prevent disease in your community. Systematic reviews are used to answer these questions:

- Which program and policy interventions have been proven effective?
- Are there effective interventions that are right for my community?
- What might effective interventions cost; what is the likely return on investment?

More than 200 interventions have been reviewed and the Task Force on Community Preventive Services has issued recommendations for their use.

● **Cancer Control P.L.A.N.E.T. (Plan, Link, Act, Network with Evidence-based Tools)**

<http://cancercontrolplanet.cancer.gov/>

The Cancer Control P.L.A.N.E.T. is a portal that provides access to data and research-tested resources that can help planners, program staff, and researchers to design, implement, and evaluate evidence-based cancer control programs. This site also links to scientific reviews of interventions on a variety of cancer and cancer prevention topics, data on the burden of cancer, comprehensive cancer control plans from other states, and contact information for potential partners.

● **Agency for Healthcare Research and Quality (AHRQ)**

<http://www.ahrq.gov/>

The Agency's mission helps achieve improved safety, quality, affordability, accessibility of health care; public health promotion and protection, disease prevention, and emergency preparedness; promote the economic and social well-being of individuals, families, and communities; and advance scientific and biomedical research and development related to health and human services. The Agency has a broad scope that touches on nearly every aspect of health care including:

- Clinical practice
- Outcomes of care and effectiveness
- Evidence-based medicine
- Primary care and care for priority populations
- Health care quality

- Patient safety/medical errors
- Organization and delivery of care and use of health care resources
- Health care costs and financing
- Health care system and public health preparedness
- Health information technology
- Knowledge transfer

● **Research Tested Intervention Programs (RTIPs)**

<http://rtips.cancer.gov/rtips/index.do>

Research-tested Intervention Programs (RTIPs) is a searchable database of cancer control Interventions and program materials and is designed to provide program planners and public health practitioners easy and immediate access to research-tested materials. Sponsored by the National Cancer Institute (NCI) and the Substance Abuse and Mental Health Services Administration (SAMHSA), the online directory provides a review of programs available for use in a community or clinical setting.

● **Washington State Department of Health**

<http://www.doh.wa.gov/>

The Department of Health works with its federal, state and local partners to help people in Washington stay healthier and safer. Programs and services help prevent illness and injury, promote healthy places to live and work, provide education to help people make good health decisions and ensure our state is prepared for emergencies.

● **Alliance for Reducing Cancer Northwest (ARCNW)**

<http://depts.washington.edu/arcnw/front>

The Alliance for Reducing Cancer, Northwest (ARC NW) was funded by the Centers for Disease Control and Prevention (CDC) and the National Cancer Institute (NCI) as part of the CDC's Prevention Research Center Program cooperative agreement to form a regional, collaborative team of cancer prevention and control experts whose mission is to evaluate and respond to gaps in the Guide to Community Preventive Services (the Community Guide).

The overall ARC NW aim is to design, secure funds, and implement community-based translational research to reduce cancer among priority populations. Our primary focus is on enhancing health promotion activities surrounding cancer prevention, improving colorectal cancer screening utilization, and addressing prostate cancer quality of life and informed decision-making issues in community and worksite populations. The ARC NW includes core and affiliate partners from research, health care, and community organizations.

The ARC NW is one of eight centers nationwide funded by the CDC and NCI as part of a national collaborative effort called the Cancer Prevention and Control Research Network.

Washington CARES About Cancer Organizational Partners

- ✧ American Cancer Society
- ✧ American Lung Association
- ✧ Bellingham Breast Center
- ✧ Breast Cancer Resource Center
- ✧ Cancer Lifeline
- ✧ Cancer Patient Care
- ✧ Cellnetix Pathology
- ✧ Center for Multicultural Health
- ✧ Children’s Hospital
- ✧ Christian Cancer Coalition
- ✧ Citrine Health
- ✧ Community & Migrant Health Center
- ✧ Community Health Center La Clinica
- ✧ Community Health Education and Resources
- ✧ Compassion and Choices of Washington
- ✧ Department of Social and Health Services
- ✧ Department of Social and Health Services/ Health and Recovery Services Administration
- ✧ Desautel Hege
- ✧ Empire Health Services
- ✧ Evergreen Hospital Medical Center
- ✧ Evergreen Radiation Oncology Center
- ✧ Fighting Children's Cancer Foundation
- ✧ First Choice Health
- ✧ Fred Hutchinson Cancer Research Center
- ✧ Gilda's Club Seattle
- ✧ Group Health Center for Health Studies
- ✧ Group Health Cooperative
- ✧ Harborview Medical Center
- ✧ Harmony Hill Retreat Center
- ✧ Highline Medical Center
- ✧ Inland Imaging P.S.
- ✧ King 5
- ✧ Lance Armstrong Foundation
- ✧ Leukemia & Lymphoma Society of Washington and Alaska
- ✧ Lymphoma Research
- ✧ Marsha Rivkin Center for Ovarian Cancer Research
- ✧ McCallie Associates
- ✧ Medical Assistance (DSHS)
- ✧ Mt Baker Planned Parenthood
- ✧ National Cancer Institute's Cancer Information Service
- ✧ Native People for Cancer Control (University of Washington)
- ✧ North Central WA Rural Health Foundation
- ✧ Northwest Hospital & Medical Center
- ✧ Northwest Natural Health Specialty Care Clinic
- ✧ Northwest Portland Indian Health Board
- ✧ Northwest Tribal Cancer Control Project
- ✧ Ovarian and Breast Cancer Alliance of Washington State
- ✧ Overlake Hospital
- ✧ Overstreet Medical Consulting
- ✧ Planned Parenthood Affiliations of Washington
- ✧ Providence Hospital of Seattle
- ✧ Public Health Seattle and King County
- ✧ Puget Sound Health Alliance
- ✧ Puget Sound Oncology Nursing Society
- ✧ Qualis Health
- ✧ Samoan National Nurses Association
- ✧ Seattle African American Comfort Program
- ✧ Seattle Cancer Care Alliance
- ✧ Skagit Valley Hospital Regional Cancer Care Center
- ✧ South Puget Intertribal Planning Agency
- ✧ Southwest Washington Medical Center
- ✧ Spokane Regional Health District
- ✧ Susan G. Komen for The Cure—Eastern Washington Affiliate
- ✧ Susan G. Komen for the Cure—Oregon / SW Washington Affiliate
- ✧ Susan G. Komen for The Cure—Puget Sound Affiliate
- ✧ Swedish Cancer Institute
- ✧ Tacoma - Pierce County Health Department
- ✧ Talaria Inc
- ✧ University of Washington
- ✧ Us TOO, International

- ✧ Valley Medical
- ✧ Virginia Mason Medical Center
- ✧ Washington Colon Cancer S.T.A.R.S
- ✧ Washington State Dept of Health
- ✧ Washington State Health Care
- ✧ Washington State Medical Oncology Society
- ✧ Washington State Prostate Cancer Coalition
- ✧ Washington State Radiological Society
- ✧ Washington State Tumor Registrar's Association
- ✧ Washington State University Cancer Prevention and Research center
- ✧ Washington State Urology Society
- ✧ Wellness House
- ✧ Wenatchee Valley Medical Center
- ✧ Western Washington Oncology
- ✧ Whatcom County Health District
- ✧ Yakima Health District
- ✧ Yakima Indian Health Service