

CANCER PREVENTION

Cancer is the second leading cause of death in the United States, contributing to one of every four deaths per year. But the real tragedy is that cancer need not be a leading cause of death. Many cancers are preventable outright, through measures such as exercising regularly, eating well, avoiding tobacco, or taking simple precautions (such as wearing sunscreen and hats to prevent the U.V. exposure that leads to skin cancer). Other cancers—such as colorectal cancer, cervical cancer, and many breast cancers—can be treated much more successfully when they are detected early. To improve the odds that more cancers will be prevented or at least detected as early as possible, CDC promotes healthy habits as well as early screening and detection.

In some cases, screening tests are not yet available (as for ovarian cancer) or are not yet linked to better survival outcomes (as with prostate cancer). In these areas, CDC works with partners to support research that will help unlock more of the clinical and demographic puzzles of why certain cancers strike some individuals and populations and not others, and how new knowledge about risk can be translated into prevention and survival. CDC's surveillance efforts—such as support for cancer registries—are an important contributor to new knowledge and understanding.

The word “cancer” encompasses many different types of cancer—breast, colorectal, prostate, skin, ovarian, lung—each with diverse affected populations; detection and treatment issues; providers; and other characteristics. One of CDC's goals is to strengthen overall cancer efforts by bringing these many forces together to create a strong, effective presence, especially at the state level. We are optimistic that these efforts will help topple cancer from its perch near the top of the list of causes of death.

BREAST AND CERVICAL CANCER EARLY DETECTION

WHAT IS THE PUBLIC HEALTH ISSUE?

- In 2004, an estimated 215,990 new breast cancer cases and 10,520 new cervical cancer cases will be diagnosed, an estimated 40,580 women will die from breast cancer, and an estimated 3,900 will die from cervical cancer.
- The risk of being diagnosed with breast cancer increases with age. Seventy-five percent of all diagnosed cases of breast cancer are among women aged 50 years or older. Mammography is the best available method to detect breast cancer in its earliest, most treatable stage and can detect cancers several years before a woman or her healthcare provider can feel a lump.
- Papanicolaou (Pap tests) screening has become more prevalent and pre-invasive lesions of the cervix are detected far more frequently than invasive cancer.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's breast and cervical cancer prevention appropriations, CDC's National Breast and Cervical Cancer Early Detection Program (NBCCEDP) has raised awareness about the importance of early detection, contributing to the 18% increase in mammography use among women over age 50 since the program's inception in 1991. The program targets low-income women with little or no health insurance and has helped reduce disparities in screening for racial and ethnic minority women. About 50% of the women screened have been from racial/ethnic minority groups. Over 4 million screening tests have been provided with about 14,446 breast cancers, 55,210 precancerous cervical lesions, and 1,020 cases of invasive cervical cancer being diagnosed. CDC works with states to ensure that women diagnosed through NBCCEDP have access to treatment. In addition, the *Breast and Cervical Cancer Prevention and Treatment Act of 2000* allows women in NBCCEDP access to treatment through Medicaid.

Example of Program in Action

The California Department of Health's *Every Woman Counts Program* launched the first statewide breast cancer hotline in the United States for Asian-American women. As a way of reaching this population, the department broadened its hotline to offer information in Chinese (Mandarin and Cantonese dialects), Korean, and Vietnamese, in addition to the information already offered in English and Spanish. Through its 2000 public awareness campaign, *Every Woman Counts...Every Year*, the department sponsored radio and print ads in Chinese, Korean, and Vietnamese to let Asian-American women know about the hotline. Because of the campaign, calls to the hotline increased from 24 in April 2000 to 576 in June 2000. On average, the hotline receives 60 to 80 calls per month, three times the number received prior to the campaign.

WHAT ARE THE NEXT STEPS?

CDC will continue to work with programs to increase the number of eligible women to be screened and to implement effective re-screening strategies. Interventions that reach underserved, rarely or never-screened women, particularly when early stages of cancer can be detected, will be used. CDC will continue to work closely with the Centers for Medicare and Medicaid Services to implement the *Breast and Cervical Cancer Prevention and Treatment Act of 2000*.

For additional information on this or other CDC programs, visit www.cdc.gov/program

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CANCER: A COMPREHENSIVE APPROACH TO PREVENTION AND CONTROL

WHAT IS THE PUBLIC HEALTH ISSUE?

- Cancer is the second leading cause of death in the United States, exceeded only by heart disease.
- One of every four deaths in the United States is from cancer. In 2004, an estimated 563,700 Americans will die of cancer—more than 1,500 people a day.
- The overall estimated cost for cancer in the United States in 2003 was \$189.5 billion, including healthcare expenditures and lost productivity from illness and death.
- Cancer is largely controllable through prevention, early detection, and treatment. However, the lack of coordination and integration of efforts between health agencies and their partners has hampered the effectiveness of cancer control activities.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's Chronic Disease Prevention and Health Promotion appropriations, CDC supports many state cancer registries and state cancer prevention and control programs, including those for breast, cervical, skin, colorectal, ovarian, and prostate cancers. These programs have made enormous strides in their own areas, but have lacked a comprehensive, coordinated focus. A comprehensive cancer control approach integrates and coordinates activities for prevention, early detection, treatment, rehabilitation, pain relief, and patient and family care during survivorship. A key component to the success of this approach is establishing partnerships between public and private sector stakeholders whose common mission is to reduce the burden of cancer. To build a coordinated focus for cancer efforts, CDC funds 51 programs to either create or implement comprehensive cancer control plans. These programs integrate the full range of cancer prevention activities, including research; evaluation; health education and communication; program development; public policy development; surveillance; and clinical services. By integrating these activities, health agencies and their partners use limited resources more efficiently; improve community-based education and health promotion; share expertise; and effectively address at-risk populations.

Example of Program in Action

Hawaii credits its Comprehensive Cancer Control Program with facilitating the successful passage of cancer legislation that potentially will decrease healthcare costs while addressing the burden of cancer. The new legislation replaced a seemingly outdated mandate (with a narrow focus on cervical cancer screening among female hospital inpatients) with new and broader legislation relating to cancer examinations as part of a statewide comprehensive cancer control plan to be developed by the department of health. The plan will include provisions for cancer examination, including cervical cancer screening, and the department will be working with other government agencies, healthcare providers, health insurers, and others to improve overall rates of screening, early diagnosis, and treatment of cancer.

WHAT ARE THE NEXT STEPS?

CDC plans to support comprehensive cancer control programs in more states, territories, and tribal organizations. Most states have developed comprehensive cancer plans or are in the process of creating them, but lack the resources necessary to carry out their plans. CDC will continue to offer technical support and tools to assist with the development and implementation of comprehensive cancer control efforts, as well as conduct evaluation research to help direct future program activities.

CANCER REGISTRIES

WHAT IS THE PUBLIC HEALTH ISSUE?

- Cancer is the second leading cause of death among Americans.
- In 2004, an estimated 563,700 Americans will die of cancer—more than 1,500 people per day.
- About 1.3 million new cases of cancer will be diagnosed in 2004. This estimate does not include *in situ* (pre-invasive) cancer or more than 1 million cases of nonmelanoma skin cancer that also will be diagnosed this year.
- The overall estimated cost for cancer in the United States in 2003 was \$189.5 billion, including healthcare expenditures and lost productivity from illness and death.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's Chronic Disease Prevention and Health Promotion appropriations, CDC's National Program of Cancer Registries (NPCR) is a fundamental component of CDC's state-based cancer control strategy. CDC supports registries in 45 states, the District of Columbia, and 3 territories, representing 96% of the United States population. Data collected by cancer registries enable public health professionals to better understand and address the cancer burden. Registry data are used to determine cancer patterns among various populations; monitor cancer trends over time; guide planning and evaluation of cancer control programs, such as those focused on preventing risk behaviors for cancer (e.g., tobacco use, sun exposure) or focused on deciding when and where cancer screening efforts should be enhanced; and advance clinical, epidemiologic, and health services research. Data collected by registries are also essential for monitoring the treatment provided to those with a diagnosis of cancer. Forty-five programs receive support to enhance existing registries, and four programs receive support to develop and implement new registries. CDC also provides training in data collection, analysis, interpretation, and quality assurance for completeness, timeliness, and quality. CDC has implemented the NPCR Cancer Surveillance System to improve the quality and usefulness of state cancer registries' data.

Example of Program in Action

In a New Jersey State Cancer Registry study using geographic information systems, two areas in the northeastern part of the state were identified as having unusually high proportions of late-stage breast cancer. Demographic information showed that these communities were more likely to be black, Hispanic, or foreign-born, and to speak a language other than English at home. To increase screenings in these areas, New Jersey produced culturally sensitive information about the availability of screening in various languages, such as Spanish, Polish, and Arabic.

WHAT ARE THE NEXT STEPS?

CDC's goal is to improve states' ability to report on cancer trends, assess program impact, identify cancer clusters, and respond to public inquiries and reports of suspected increases in cancer occurrence. Since fall 2002, CDC and the National Cancer Institute, in collaboration with the North American Association of Central Cancer Registries, produced a set of official federal cancer incidence statistics from each state having high-quality registry data. The report, *U.S. Cancer Statistics: 2000 Incidence*, includes cancer data from 41 states, 6 metropolitan areas, and the District of Columbia, representing about 84% of the U.S. population. Plans are to produce this report on an annual basis. Availability of regional- and national-level data will facilitate research on rare cancers; cancer among children and racial and ethnic minority populations; and occupation-related cancer. The data will also facilitate special studies focusing on patterns of care for cancer patients.

COLORECTAL CANCER EARLY DETECTION

WHAT IS THE PUBLIC HEALTH ISSUE?

- Colorectal cancer is the third leading cause of cancer-related death in the nation. In 2004, about 56,730 Americans will die from colorectal cancer and about 146,940 new cases will be diagnosed.
- Survival is greatly enhanced when this cancer is detected and treated early; yet only 38% of colorectal cancer cases are diagnosed at an early, localized stage.
- Screening for colorectal cancer can help prevent the disease by identifying precancerous polyps that can be removed before cancer develops. Unfortunately, these effective screening tests are underused.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's Chronic Disease Prevention and Health Promotion appropriations, CDC supports and promotes national colorectal cancer screening by educating healthcare providers and the public about the benefits of screening, the availability of screening procedures, and screening guidelines. CDC educates Americans aged 50 years or older about the importance of regular colorectal cancer screening with its national colorectal cancer action campaign, *Screen for Life*. CDC has developed an online training program, *A Call To Action* (www.cdc.gov/cancer/colorctl/calltoaction/index.htm) to further raise primary care providers' awareness and knowledge about the prevention and early detection of colorectal cancer. CDC supports epidemiological, behavioral science, and surveillance research efforts to gather and analyze data. CDC also funds prevention and intervention research projects and investigations related to colorectal cancer. In addition, CDC works with various national partners like the American Cancer Society to support efforts that inform and educate multiple audiences about the importance of colorectal cancer screening. CDC focuses its policies, programs, and efforts toward reaching the goal of increasing screening rates and reducing colorectal cancer deaths.

Example of Program in Action

Recent evidence indicates that screening reduces death rates from colorectal cancer. With support from CDC, through its comprehensive cancer control program, states and tribes are encouraged to create cancer control plans which integrate cancer prevention and control activities, especially those related to colorectal cancer. The overall objectives of these plans are to use resources as efficiently as possible, improve community-based education and health promotion, share expertise, and effectively target at-risk populations. For instance, a colorectal cancer control initiative may include these activities: develop broad-based coalitions, increase awareness about the need for and importance of screening, conduct colorectal cancer screening in local health departments across the state, and train healthcare professionals to perform flexible sigmoidoscopy (the screening test for colorectal cancer). Additional funding is provided to Alabama, Colorado, Georgia, Iowa, Massachusetts, Utah, Washington, and West Virginia to implement specific colorectal cancer strategies within their statewide comprehensive cancer control plans.

WHAT ARE THE NEXT STEPS?

CDC will promote colorectal cancer screening campaigns nationwide by educating healthcare providers and the public about current screening guidelines and the benefits of screening. CDC will support prevention and intervention research to find ways to improve colorectal cancer screening rates and answer questions related to clinical infrastructure, methods, frequency, and best practices for screening. CDC will enhance colorectal cancer reporting for racial and ethnic minorities and use registries to assess the quality of care received by people diagnosed with this disease. CDC will continue to work with its national partners to raise colorectal cancer awareness.

For additional information on this or other CDC programs, visit www.cdc.gov/program

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PROSTATE CANCER

WHAT IS THE PUBLIC HEALTH ISSUE?

- In 2004, about 230,110 new cases of prostate cancer will be diagnosed, and 29,900 men will die of the disease.
- At all ages, African-American men die of prostate cancer more often than do other men. In contrast, Asian/Pacific-Islander men experience some of the lowest rates of incidence and mortality. The reasons for the variation among groups are unknown. Recent reports on trends in mortality rates for prostate cancer by race/ethnicity in the United States indicate that death rates for prostate cancer decreased for all racial/ethnic groups.
- No scientific consensus on effective strategies to reduce risk of prostate cancer exists. Additionally, there is no agreement on the effectiveness of screening and treatment of early stage prostate cancer or that the potential benefits outweigh harms. Therefore, public health agencies face significant challenges in determining what actions to take to address prostate cancer.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's Chronic Disease Prevention and Health Promotion appropriations, CDC educates providers and the public about screening and treatment options and helps states build prostate cancer public health programs. CDC also supports grantees in comprehensive cancer control efforts, including activities that target prostate cancer. Activities include establishing broad-based coalitions, coordinating surveillance, and developing and disseminating public education programs to reduce cancer risk. To enable states to better design public health programs to control the disease, CDC is enhancing prostate cancer data in cancer registries, especially with regard to stage of diagnosis, quality of care and racial/ethnic information. In addition, CDC sponsors research to determine whether screening for prostate cancer reduces deaths, examine current screening practices among providers, and explore the public's knowledge, awareness and behaviors regarding prostate cancer screening.

Example of Program in Action

CDC developed a decision guide that targets men age 50 and older who have no symptoms to increase their knowledge and awareness about the prostate gland and prostate cancer; give them basic facts about prostate cancer screening; encourage them to discuss screening with their healthcare professionals; and educate them so they can make an informed decision about screening. In addition, a similar guide has recently been developed for African-American men. These guides are intended to stimulate thought and dialogue about prostate cancer screening by providing basic facts and resources.

WHAT ARE THE NEXT STEPS?

To advance efforts targeting prostate cancer, CDC will continue to encourage state health departments to integrate activities related to prostate cancer into their comprehensive cancer control plans and provide additional funding to some states to support the implementation of specific prostate cancer strategies within their statewide comprehensive cancer control plans. CDC will also continue to conduct surveillance activities to determine knowledge, attitudes, and behaviors of men and healthcare providers about prostate cancer screening and treatment options, especially focused on developing appropriate interventions to help men make informed decisions about screening.

In addition, CDC will continue to review and implement, as appropriate, recommendations from the December 2000 prostate cancer meeting of healthcare providers, researchers, survivors, advocates, and others with expertise in prostate cancer. CDC will also conduct epidemiologic and behavioral research to build the science base for this disease; expand research about prostate cancer screening and treatment options; and promote and disseminate informed decision-making materials nationwide.

REDUCING THE BURDEN OF OVARIAN CANCER

WHAT IS THE PUBLIC HEALTH ISSUE?

- Ovarian cancer is the fifth most common cancer and fourth leading cause of death for women.
- In 2004, an estimated 25,580 new cases of ovarian cancer cases will be diagnosed in this country and 16,090 women will die of the disease. Currently, half the women diagnosed with ovarian cancer die from the disease within 5 years.
- Only about 25% of ovarian cancers are diagnosed at an early stage. About 60% of cases are diagnosed after the cancer has spread, when the 5-year survival rate is close to 30%. When detected early, the 5-year survival rate increases to 95%.
- A reliable screening test, which is an important tool for improving early diagnosis rates, does not exist for ovarian cancer.

WHAT HAS CDC ACCOMPLISHED?

Since 2000, congressional funding has allowed CDC to develop public health activities aimed at reducing ovarian cancer morbidity and mortality. To identify unmet public health needs, CDC convened a workshop in 2000, entitled "Identifying Public Health Opportunities to Reduce the Burden of Ovarian Cancer." Attendees included leaders from state health departments and ovarian cancer advocacy groups, as well as physicians and scientists from federal agencies, medical centers, and cancer treatment programs. These experts agreed that although a satisfactory screening test for ovarian cancer was not yet available, there were important opportunities to reduce illness and death caused by the disease. A copy of the workshop report is available at www.cdc.gov/cancer/ovarian/index.htm. Information developed at this workshop is being used annually to guide several CDC ovarian cancer research and health communication activities.

Example of Program in Action

Several studies are being conducted at CDC-funded Prevention Research Centers. These include multi-year research projects at the Centers for Health Promotion and Prevention Research at the University of Texas in Houston and at the University of Alabama in Birmingham. The primary objective of these studies is to identify factors that distinguish women in whom ovarian cancer is diagnosed at stages 1 and 2 from those diagnosed at a later stage. Additional multi-year projects were funded at the Center for Health Promotion and Prevention Research at the University of Texas in Houston and at the University of Oklahoma Health Sciences Center in Oklahoma City. The objective of these two studies is to examine the barriers to ovarian cancer diagnosis and treatment. Identification of factors that can lead to earlier diagnosis is crucial in the development of programs to increase long-term survival rates

WHAT ARE THE NEXT STEPS?

In 2003, CDC funded Alabama, Colorado, and West Virginia to implement ovarian cancer activities that were identified and prioritized in their comprehensive cancer control plans. All three programs are working to develop ovarian cancer health messages for healthcare providers and the public. With additional funding, CDC will help more states create effective ovarian cancer prevention activities, support research efforts to better understand which populations are most affected by ovarian cancer and why, and evaluate the access and capacity of providers who treat ovarian cancer. CDC will develop health communication messages to provide appropriate education and information about ovarian cancer to physicians and healthcare providers.

For additional information on this or other CDC programs, visit www.cdc.gov/program

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SKIN CANCER

WHAT IS THE PUBLIC HEALTH ISSUE?

- Skin cancer is the most common cancer in the United States, claiming the lives of 9,800 people in 2003.
- An estimated 55,100 new cases of melanoma will be diagnosed in 2004. Melanoma is the deadliest form of skin cancer, causing more than 75% of all skin cancer deaths. More than 1 million cases of basal and squamous cell cancers are expected to be diagnosed in 2004.
- Exposure to the sun's ultraviolet rays appears to be the most important environmental factor in the development of skin cancer, which is largely preventable when sun-protective practices are used consistently.

WHAT HAS CDC ACCOMPLISHED?

With funds from CDC's Chronic Disease Prevention and Health Promotion appropriations, CDC's skin cancer prevention and education efforts are designed to reduce illness and death. In 2002, CDC published the "Guidelines for School Programs to Prevent Skin Cancer" to help state and local education agencies and schools play a role in reducing unsafe sun exposure. Recommendations include establishing policies to reduce sun exposure, providing an environment that supports sun-safety practices, providing health education, involving students' families, training healthcare professionals, and evaluating school skin cancer prevention programs. CDC released the *EXCITE Skin Cancer Module*, which can be used by high school students and teachers to learn more about skin cancer and epidemiology.

During 2003, the Task Force on Community Preventive Services— an independent panel supported by CDC—conducted a systematic review of selected population-based interventions to prevent melanoma and non-melanoma skin cancer. The review was published in CDC's *Morbidity and Mortality Weekly Report*. The research results from the Task Force included recommendations (for educational and policy approaches in primary schools and in recreational and tourism settings) to encourage people to wear hats or other garments that limit sun exposure.

Example of Program in Action

CDC provides funding to Colorado, Michigan, and North Carolina state education agencies to collaborate with their department of public health to conduct demonstration projects implementing the "Guidelines for School Programs to Prevent Skin Cancer." CDC also continues to fund several state departments of health to implement skin cancer prevention and education efforts that were identified and prioritized in the comprehensive cancer control plans.

WHAT ARE THE NEXT STEPS?

CDC plans to increase support for comprehensive cancer control in health agencies to integrate the full range of cancer control activities to better maximize resources, improve community-based education and health promotion, share expertise, and effectively target at-risk populations. In addition, CDC will work to further disseminate the "Guidelines for School Programs to Prevent Skin Cancer" among key partners.