Cancer

**Co-Lead Agencies: Centers for Disease Control and Prevention
National Institutes of Health**

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Contents

Goal

Reduce the number of new cancer cases as well as the illness, disability, and death caused by cancer.

Overview

Cancer is the second leading cause of death in the United States. During 2000, an estimated 1,220,100 persons in the United States were expected to be diagnosed with cancer; 552,200 persons were expected to die from cancer.[1] These estimates did not include most skin cancers, and new cases of skin cancer are estimated to exceed 1 million per year. One-half of new cases of cancer occur in people aged 65 years and over.[2]

About 491,400 persons who get cancer in a given year, or 4 in 10 patients, are expected to be alive 5 years after diagnosis. When adjusted for normal life expectancy (accounting for factors such as dying of heart disease, injuries, and diseases of old age), a relative 5-year survival rate of 60 percent is seen for all cancers.[1] This rate means that the chance of a person recently diagnosed with cancer being alive in 5 years is 60 percent of the chance of someone not diagnosed with cancer. Five-year relative survival rates commonly are used to monitor progress in the early detection and treatment of cancer and include persons who are living 5 years after diagnosis, whether in remission, disease free, or under treatment.

Issues and Trends

Cancer death rates for all sites combined decreased an average of 0.6 percent per year from 1990 to 1996.[3] Death rates for female breast cancer and colorectal cancer decreased significantly during the 1990–96 period.[3] The lung and bronchus, prostate, female breast cancer, and colon and rectum were the most common cancer sites for all racial and ethnic populations in the United States and together accounted for approximately 54 percent of all newly diagnosed cancers.[1]

In addition to the human toll of cancer, the financial costs of cancer are substantial.[4] The overall annual costs for cancer are estimated at $107 billion. Treatment for lung, breast, and prostate cancers alone accounts for more than half of the direct medical costs of $37 billion annually.

Disparities

Cancer death rates vary by gender, race, and ethnicity.[3] Female death rates peaked in 1991 at 142.2 per 100,000. After the peak year, female deaths decreased on average by 0.4 percent per year through 1996. There was a significant decrease in breast cancer death for females.[3] Lung cancer death rates have continued to increase among females. Since 1987, more females have died from lung cancer than breast cancer.

African Americans are about 34 percent more likely to die of cancer than are whites and more than two times more likely to die of cancer than are Asian or Pacific Islanders, American Indians, and Hispanics.[1] African American women are more likely to die of breast and colon cancers than are women of any other racial and ethnic group, and they have approximately the same lung cancer death rates as white women. Hispanics have higher rates of cervical cancer.

Differences among the races represent both a challenge to understand the reasons and an opportunity to reduce illness and death and to improve survival rates.

The Hispanic cancer experience also differs from that of the non-Hispanic white population, with Hispanics having higher rates of cervical cancer. New cases of female breast cancer are increasing among Hispanics, who are diagnosed at later stages and have lower survival rates than whites.

The recent decrease in deaths from breast cancer in white females is attributed to greater use of breast cancer screening in regular medical care. However, deaths due to breast cancer in African American females continue to increase, in part, because breast cancer is diagnosed at later stages in African American females.[1]

Possible disparities regarding the health status of lesbian women and possible barriers to access to health services by lesbians have been identified by the Institute of Medicine as a research priority.[5]

Opportunities

Evidence suggests that several types of cancer can be prevented and that the prospects for surviving cancer continue to improve. The ability to reduce cancer death rates depends, in part, on the existence and application of various types of resources. First, the means to provide culturally and linguistically appropriate information on prevention, early detection, and treatment to the public and to health care professionals are essential. Second, mechanisms or systems must exist for providing people with access to state-of-the-art preventive services and treatment. Where suitable, participation in clinical trials also should be encouraged. Third, a mechanism for maintaining continued research progress and for fostering new research is essential. Genetic information that can be used to improve disease prevention strategies is emerging for many cancers and may provide the foundation for improved effectiveness in clinical and preventive medicine services.

Scientific data from randomized trials of cancer screening together with expert opinions indicate that adherence to screening recommendations for cancers of the breast, cervix, and colon/rectum reduces deaths from these cancers.

To reduce breast cancer deaths in the United States, a high percentage of females aged 40 years and older need to comply with screening recommendations. A reduction in breast cancer deaths could be expected to occur after a delay of roughly 7 years.[6] To reduce cervical cancer deaths, a high percentage of females in the United States who are aged 18 years and older need to comply with screening recommendations. Evidence from randomized preventive trials is unavailable, but expert opinion suggests that a beneficial impact on cervical cancer death rates would be expected to occur after a delay of a few years.

Interim Progress Toward Year 2000 Objectives

Data showed some improvement in the proportion of women receiving mammograms and Pap tests. In addition, for both mammograms and Pap tests, the disparity in use rates for most of the population subgroups and those for all women either has been reduced or eliminated.

Note: Data are from the Centers for Disease Control and Prevention, National Center for Health Statistics, *Healthy People 2000 Review, 1998–99*.

REPRODUCTIVE HEALTH–RELATED OBJECTIVES

Cancer

Goal:

Reduce the number of new cancer cases as well as the illness, disability, and death caused by cancer.

Number   Objective Short Title

3-3.   Breast cancer deaths

3-4.   Cervical cancer deaths

3-10.   Provider counseling about cancer prevention

3-11.   Pap tests

3-13.   Mammograms

HEALTHY PEOPLE 2010 OBJECTIVES

3-3.   Reduce the breast cancer death rate.

Target: 22.3 deaths per 100,000 females.

Baseline: 27.9 breast cancer deaths per 100,000 females occurred in 1998 (age adjusted to the year 2000 standard population).

Target setting method: 20 percent improvement.

Data source: National Vital Statistics System (NVSS), CDC, NCHS.

Note: The table below may continue to the following page.

Females, 1998	Breast Cancer Deaths Rate per 100,000
TOTAL	27.9
Race and ethnicity	
American Indian or Alaska Native	14.2
Asian or Pacific Islander	13.1
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC

Females, 1998	Breast Cancer Deaths Rate per 100,000
Black or African American	35.7
White	27.3
Hispanic or Latino	16.8
Not Hispanic or Latino	28.5
Black or African American	36.7
White	27.9
Education level (aged 25 to 64 years)	
Less than high school	20.0
High school graduate	28.4
At least some college	22.0

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

Note: The table above may have continued from the previous page.

Breast cancer is the most common cancer among women in the United States. An estimated 184,200 new cases were expected to be diagnosed in 2000. About 40,800 U.S. women were expected to die from breast cancer in 2000, accounting for about 15.2 percent of cancer deaths among women.[1] Death from breast cancer can be reduced substantially if the tumor is discovered at an early stage. Mammography is the most effective method for detecting these early malignancies. Clinical trials have demonstrated that mammography screening can reduce breast cancer deaths by 20 to 39 percent in women aged 50 to 74 years and about 17 percent in women aged 40 to 49 years.[7] Breast cancer deaths can be reduced through increased adherence with recommendations for regular mammography screening.

Many breast cancer risk factors, such as age, family history of breast cancer, reproductive history, mammographic densities, previous breast disease, and race and ethnicity, are not subject to intervention.[8,9] However, being overweight is a well-established breast cancer risk for postmenopausal women that can be addressed.[8] Avoiding weight gain is one method by which older women may reduce their risk of developing breast cancer.

3-4.   Reduce the death rate from cancer of the uterine cervix.

Target: 2.0 deaths per 100,000 females.

Baseline: 3.0 cervical cancer deaths per 100,000 females occurred in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Vital Statistics System (NVSS), CDC, NCHS.

Females, 1998	Cervical Cancer Deaths Rate per 100,000
TOTAL	3.0
Race and ethnicity	
American Indian or Alaska Native	2.5
Asian or Pacific Islander	3.3
Asian	DNC
Native Hawaiian and other Pacific Islander	DNC
Black or African American	6.0
White	2.7
Hispanic or Latino	3.3
Not Hispanic or Latino	3.0
Black or African American	6.2
White	2.6
Education level (aged 25 to 64 years)	
Less than high school	7.2
High school graduate	4.8
At least some college	2.1

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

Cervical cancer is the 10th most common cancer among females in the United States, with an estimated 12,800 new cases in 2000. The number of new cases of cervical cancer is higher among females from racial and ethnic groups than among white females. An estimated 4,600 U.S. females were expected to die from cervical cancer in 2000.[1] Cervical cancer accounts for about 1.7 percent of cancer deaths among females. Infections of the cervix with certain types of sexually transmitted human papilloma virus increase risk of cervical cancer and may be responsible for most cervical cancer in the United States.[10]

Considerable evidence suggests that screening can reduce the number of deaths from cervical cancer. Invasive cervical cancer is preceded in a large proportion of cases by precancerous changes in cervical tissue that can be identified with a Pap test. If cervical cancer is detected early, the likelihood of survival is almost 100 percent with appropriate treatment and followup; that is, almost all cervical cancer deaths could be avoided if all females complied with screening and followup recommendations.[11] Risk is substantially decreased among former smokers in comparison to continuing smokers.[12]

3-10. Increase the proportion of physicians and dentists who counsel their at-risk patients about tobacco use cessation, physical activity, and cancer screening.

Target and baseline:

Objective	Increase in Counseling About Tobacco Use Cessation, Physical Activity, and Cancer Screening	1988 Baseline (unless noted)	2010 Target
		Percent	
3-10a.	Internists who counsel about smoking cessation	50	85
3-10b	Family physicians who counsel about smoking cesstion	43	85
3-10c.	Dentists who counsel about smoking cessation	59 (1997)	85
3-10d.	Primary care providers who counsel about blood stool tests	56	85
3-10e.	Primary care providers who counsel about proctoscopic examinations	23	85
3-10f.	Primary care providers who counsel about mammograms	37	85
3-10g.	Primary care providers who counsel about Pap tests	55	85
3-10h.	Primary care providers who counsel about physical activity	22 (1995)	85

Target setting method: Better than the best.

Data sources: Survey of Physicians' Attitudes and Practices in Early Cancer Detection, NIH, NCI; National Ambulatory Medical Care Survey (NAMCS), CDC, NCHS; Survey of Current Issues in Dentistry, American Dental Association.

Smoking cessation,[12, 13] adoption of healthy diets,[14] increased physical activity,[15, 16] and increased cancer screening[6, 17, 18, 19, 20, 21, 22, 23, 24] can all contribute to reduced numbers of cancer deaths. Experts recommend that providers screen patients for breast, cervical, and colorectal cancers and counsel patients to prevent or reduce tobacco use, promote physical activity, and promote a healthy diet.[25] Provider counseling should be conducted in a linguistically and culturally appropriate manner.

3-11.   Increase the proportion of women who receive a Pap test.

Target and baseline:

Objective	Increase in Pap Testing	1998 Baseline*	2010 Target
		Percent	
3-11a.	Women aged 18 years and older who have ever received a Pap test	92	97
3-11b.	Women aged 18 years and older who received a Pap test within the preceding 3 years	79	90

*Age adjusted to the year 2000 standard population. Includes women without a uterine cervix.

Target setting method: Better than the best.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

Note: The table below may continue to the following page.

Women Aged 18 Years and Older, 1998 (unless noted)	Pap Test	
	3.11a Ever	3.11b. In Preceding 3 Years
	Percent	
TOTAL	92	79
Race and ethnicity		
American Indian or Alaska Native	88	72
Asian or Pacific Islander	78	67
Asian	78	67
Native Hawaiian and other Pacific Islander	80	66
Black or African American	94	83
White	93	79
Hispanic or Latino	85	74
Not Hispanic or Latino	93	80
Black or African American	94	83
White	94	80

Women Aged 18 Years and Older, 1998 (unless noted)	Pap Test	
	3.11a Ever	3.11b. In Preceding 3 Years
	Percent	
Education level (aged 25 and older)		
Less than high school	89	69
High school graduate	95	78
At least some college	97	83
Family income level		
Poor	88	69
Near poor	92	73
Middle/high income	94	83
Geographic location		
Urban	92	80
Rural	93	78
Disability status		
With activity limitations	95 (1994)	74 (1994)
Without activity limitations	94 (1994)	78 (1994)

Note: Age adjusted to the year 2000 standard population. Includes women without a uterine cervix.
Note: The table above may have continued from the previous page.

3-13. Increase the proportion of women aged 40 years and older who have received a mammogram within the preceding 2 years.

Target: 70 percent.

Baseline: 67 percent of women aged 40 years and older received a mammogram within the preceding 2 years in 1998 (age adjusted to the year 2000 standard population).

Target setting method: Better than the best.

Data source: National Health Interview Survey (NHIS), CDC, NCHS.

Women Aged 40 Years and Older, 1998 (unless noted)	Mammogram Percent
TOTAL	67
Race and ethnicity	
American Indian or Alaska Native	45
Asian or Pacific Islander	61
Asian	61
Native Hawaiian and other Pacific Islander	DSU
Black or African American	66
White	67
Hispanic or Latino	61
Not Hispanic or Latino	68
Black or African American	66
White	68
Education level	
Less than high school	53
High school graduate	66
At least some college	73
Family income level	
Poor	50
Near poor	54
Middle/high income	73
Geographic location	
Urban	68
Rural	65
Disability status	
With activity limitations	55 (1994)
Without activity limitations	61 (1994)

DNA = Data have not been analyzed. DNC = Data are not collected. DSU = Data are statistically unreliable.
Note: Age adjusted to the year 2000 standard population.

Terminology

Cancer: A term for diseases in which abnormal cells divide without control. Cancer cells can invade nearby tissue and can spread through the bloodstream and lymphatic system to other parts of the body.

Cancer screening: Checking for changes in tissue, cells, or fluids that may indicate the possibility of cancer when there are no symptoms.

Carcinoma: Cancer that begins in the epithelial tissue that lines or covers an organ.

Clinical trials: Research studies that evaluate the effectiveness of new treatment or disease prevention methods on patients.

Digital rectal exam (DRE): A test in which the health care provider inserts a lubricated, gloved finger into the rectum to feel for abnormal areas.

Invasive cervical cancer: Cancer that has spread from the surface of the cervix to tissue deeper in the cervix or to other parts of the body.

Malignant: Cancerous.

Mammogram: An x ray of the breast.

Pap (Papanicolaou) test: Microscopic examination of cells collected from the cervix. The Pap test is used to detect cancer, changes in the cervix that may lead to cancer, and noncancerous conditions, such as infection or inflammation.

Risk factor: Something that increases a person's chance of developing a disease.

Stage: The size and extent of a cancer, including whether the disease has spread from the original site into surrounding tissue and other parts of the body.

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