

# Special Section: Cancer Disparities and Premature Deaths

## Introduction

There has been remarkable progress in reducing cancer death rates in the United States. Between 1990 and 2007, the most recent year for which mortality data are available, overall cancer death rates decreased by about 22% in men and 14% in women, translating to the avoidance of 898,000 deaths from cancer. However, not all segments of the US population have benefitted equally from this progress.<sup>1</sup> Death rates in persons with lower socioeconomic status, as defined by education, occupation, or residence, showed little or no decrease, and even increased in some instances.<sup>2-5</sup> Similarly, the decreases in cancer death rates in minorities occurred later and were slower compared to those of whites. As a result, the gap in mortality rates between advantaged and disadvantaged segments of the US population has continued to widen.<sup>2,6</sup> For instance, in both black and white men aged 25-64, the cancer death rate was two times higher in the least educated compared to the most educated in 1993;<sup>7</sup> by 2007, this disparity had increased to a nearly three-fold difference.

Eliminating cancer disparities among different segments of the US population defined in terms of socioeconomic status (income, education, insurance status, etc.), race/ethnicity, residence, sex, and sexual orientation is an overarching objective of the American Cancer Society's 2015 challenge goals.<sup>8</sup> Specifically, the aim is to reduce cancer incidence and mortality and increase cancer survival in disadvantaged groups to levels comparable to the general population.<sup>8</sup> The decennial US Department of Health and Human Services Healthy People Initiative, which began in 1979, also commits the nation to the goal of eliminating health disparities.<sup>9</sup> This goal remains ambitious to achieve, even for the collective resources of federal, state, and private health organizations.

This special section attempts to quantify the number of premature cancer deaths that could be avoided or delayed if we were to eliminate disparities by educational attainment and race. It also briefly addresses the causes of disparities, as well as strategies and current efforts by the Society and other government and private health agencies to eliminate health inequities. The purpose of this document is to stimulate concerted action on the part of communities, policy makers, and private and governmental health agencies toward reducing and ultimately eliminating disparities in the cancer burden.

## What Causes Cancer Disparities?

The causes of cancer disparities within different socioeconomic or racial/ethnicity groups are complex, and include interrelated social, economic, cultural, and health system factors. However, disparities predominantly arise from inequities in work, wealth, income, education, housing, and overall standard of living, as well as social barriers to high-quality cancer prevention, early detection, and treatment services. In 1989, Dr. Samuel Broder, who was then director of the National Cancer Institute, suggested that "poverty is a carcinogen," a cancer-causing agent.

When educational attainment is used as an indicator of socioeconomic status (SES), persons with lower SES have a higher cancer burden compared to those with higher SES, regardless of demographic factors such as race/ethnicity, for all cancers combined and for the four major cancers (Table 1). The disparity is largest for lung cancer, for which death rates are 4 to 5 times higher in the least educated than in the most educated individuals.

Cancer death rates are affected by both incidence (risk of developing cancer) and survival after diagnosis. Persons with lower SES are more likely to engage in behaviors that increase cancer risk, such as tobacco use, physical inactivity, and poor diet (Table 2), partly because marketing strategies, such as those by tobacco companies, and also because of environmental or community barriers to opportunities for physical activity and access to fresh fruits and vegetables. Lower socioeconomic status is also associated with financial, structural, and personal obstacles to health care, including inadequate health insurance, reduced access to recommended preventive care and treatment services, and lower literacy rates. Individuals with no health insurance are more likely to be diagnosed with advanced cancer and less likely to receive standard treatment and survive their disease.<sup>10</sup> For more information about the relationship between health insurance and cancer, see *Cancer Facts & Figures 2008*, Special Section, available online at [cancer.org/statistics](http://cancer.org/statistics).

Similarly, much of the disparity in the cancer burden among racial and ethnic minorities largely reflects obstacles to receiving health care services related to cancer prevention, early detection, and high-quality treatment, with poverty (low SES) as the overriding factor. According to the US Census Bureau, in 2009, 1 in 4 African Americans and Hispanics/Latinos lived below the poverty line, compared to 1 in 11 non-Hispanic whites. Moreover, 1 in 5 African Americans and 1 in 3 Hispanics/Latinos or American Indian/Alaska Natives were uninsured, while only 1 in 8 non-Hispanic whites lacked health insurance (Figure 1).

Discrimination is another factor that contributes to racial/ethnic disparities in the cancer burden. Racial and ethnic minorities tend to receive lower-quality health care than whites, even when insurance status, age, severity of disease, and health status are comparable.<sup>11</sup> Social inequalities, including discrimination,

**Table 1. Cancer Death Rates\* by Educational Attainment, Race/Ethnicity, and Sex, Ages 25-64, US, 2007**

	Men				Women			
	All Races	Non-Hispanic African American	Non-Hispanic White	Hispanic	All Races	Non-Hispanic African American	Non-Hispanic White	Hispanic
<b>All sites</b>								
All education levels	104.36	170.43	101.68	51.00	90.75	126.43	89.42	54.03
< = 12 years of education	147.85	216.48	148.79	52.80	119.38	145.38	123.96	55.99
13-15 years of education	72.67	101.67	71.33	45.71	69.07	105.88	66.24	35.84
> = 16 years of education	55.92	76.90	56.48	37.05	59.13	86.18	57.79	58.68
RR (95% CI)	2.64 (2.53 - 2.76)	2.82 (2.40 - 3.30)	2.63 (2.52 - 2.76)	1.43 (1.06 - 1.92)	2.02 (1.94 - 2.10)	1.69 (1.49 - 1.90)	2.15 (2.05 - 2.25)	0.95 (0.69 - 1.32)
Absolute difference	91.94	139.58	92.32	15.75	60.25	59.20	66.17	-2.68
<b>Lung</b>								
All education levels	32.19	53.98	31.74	9.23	22.38	26.04	23.36	5.39
< = 12 years of education	51.63	73.01	53.49	9.40	33.86	33.20	37.71	5.43
13-15 years of education	20.54	28.26	20.48	6.85	15.28	20.22	15.29	4.42
> = 16 years of education	10.35	17.64	10.18	8.61	8.77	11.96	8.62	6.48
RR (95% CI)	4.99 (4.65 - 5.34)	4.14 (3.27 - 5.24)	5.26 (4.88 - 5.67)	1.09 (0.66 - 1.82)	3.86 (3.58 - 4.17)	2.78 (2.22 - 3.48)	4.38 (4.02 - 4.76)	0.84 (0.38 - 1.83)
Absolute difference	41.28	55.37	43.31	0.79	25.09	21.24	29.09	-1.05
<b>Colorectal</b>								
All education levels	10.10	19.00	9.43	5.52	7.38	12.58	6.95	5.03
< = 12 years of education	13.59	22.45	13.18	5.34	9.75	13.97	9.74	5.11
13-15 years of education	7.41	13.46	6.74	6.30	5.65	9.87	5.23	3.26
> = 16 years of education	6.22	10.37	6.05	3.80	4.73	9.81	4.43	4.60
RR (95% CI)	2.18 (2.00 - 2.39)	2.17 (1.663 - 2.87)	2.18 (1.97 - 2.41)	1.41 (0.67 - 2.96)	2.06 (1.86 - 2.29)	1.42 (1.11 - 1.83)	2.20 (1.95 - 2.48)	1.11 (0.47 - 2.60)
Absolute difference	7.37	12.08	7.13	1.54	5.02	4.16	5.31	0.51
<b>Prostate</b>								
All education levels	2.88	7.93	2.46	1.40				
< = 12 years of education	3.61	9.03	3.04	1.33				
13-15 years of education	2.16	5.51	1.81	1.85				
> = 16 years of education	2.17	5.99	2.05	0.82				
RR (95% CI)	1.66 (1.44 - 1.93)	1.51 (1.03 - 2.22)	1.48 (1.25 - 1.75)	1.61 (0.36 - 7.20)				
Absolute difference	1.44	3.04	0.99	0.51				
<b>Breast</b>								
All education levels					19.34	32.44	18.14	11.94
< = 12 years of education					22.12	33.53	21.41	11.93
13-15 years of education					16.23	31.17	14.60	7.97
> = 16 years of education					16.51	27.44	15.76	18.46
RR (95% CI)					1.34 (1.26 - 1.43)	1.22 (1.03 - 1.44)	1.36 (1.26 - 1.46)	0.65 (0.41 - 1.03)
Absolute difference					5.60	6.09	5.64	-6.52

RR=relative risk of cancer death among those with the lowest level of education, compared to those with the highest level; CI=confidence interval; NA=not applicable. Education categories are defined based on 1989 death certificates. \*Rates are for individuals 25-64 years at death, per 100,000, and age adjusted to the 2000 US standard population.

**Data Source:** National Center for Health Statistics.

©2011, American Cancer Society, Inc., Surveillance Research

**Table 2. Prevalence (%) of Risk Factor Behaviors (Adults 18 and Older in 2009) and Cancer Screening\* (2008) in the US**

	Current Smoking <sup>†</sup>		Obesity <sup>‡</sup>		FOBT/ Endoscopy <sup>§</sup>	Mammogram (within the past 2 years)
	Men	Women	Men	Women	Men and Women ≥50 Yrs	Women ≥40 Yrs
<b>Education<sup>¶</sup></b>						
≤ 12 years	30.5	23.1	32.6	32.8	47.5	60.8
General Educational Development (GED)	53.2	44.7	37.0	38.6	54.9	65.9
Some college	24.1	20.3	32.5	30.5	56.3	69.1
Undergraduate degree	12.4	9.9	25.5	20.2	60.8	76.5
Graduate degree	4.9	6.3	19.0	17.2	69.5	80.1
<b>Race/Ethnicity</b>						
White (non-Hispanic)	24.5	19.8	27.5	24.7	56.0	68.0
African American (non-Hispanic)	23.9	19.2	33.1	42.8	48.9	67.7
Hispanic/Latino	19.0	9.8	32.0	30.4	37.2	61.5
American Indian/Alaska Native <sup>#</sup>	29.7	N/A	34.5	30.2	29.9	59.7
Asian (non-Hispanic)**	16.9	7.5	9.4	8.5	47.8	65.1
<b>Immigration</b>						
Born in US	25.0	19.9	29.5	28.0	55.0	67.6
Born in US territory	19.2	15.8	33.4	36.4	45.9	63.6
In US fewer than 10 years	16.7	5.2	14.9	13.5	28.0	49.7
In US 10 years or more	16.0	7.5	23.4	24.5	41.9	65.8
<b>Health Insurance Coverage</b>						
Uninsured	37.8	27.2	26.8	30.5	19.5	35.6
Insured	19.7	16.2	28.5	26.5	55.7	70.5

\*Percentages are age adjusted to the 2000 US standard population. † Adults who reported having smoked at least 100 cigarettes and now smoke every day or some days. ‡ Body mass index ≥30.0 kg/m<sup>2</sup>. § Either a fecal occult blood test (FOBT) within the past year, sigmoidoscopy within the past five years, or colonoscopy within the past 10 years. ¶ Persons aged 25 years or older. # Estimates should be interpreted with caution because of the small sample sizes. \*\* Does not include Native Hawaiians and other Pacific Islanders. N/A=Not available due to insufficient sample size.

Source: National Health Interview Survey, 2008, 2009, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention, 2009, 2010.

American Cancer Society, Inc., Surveillance Research

communication barriers, and provider assumptions, can affect interactions between patient and physician and contribute to miscommunication or delivery of substandard care.<sup>12,13</sup>

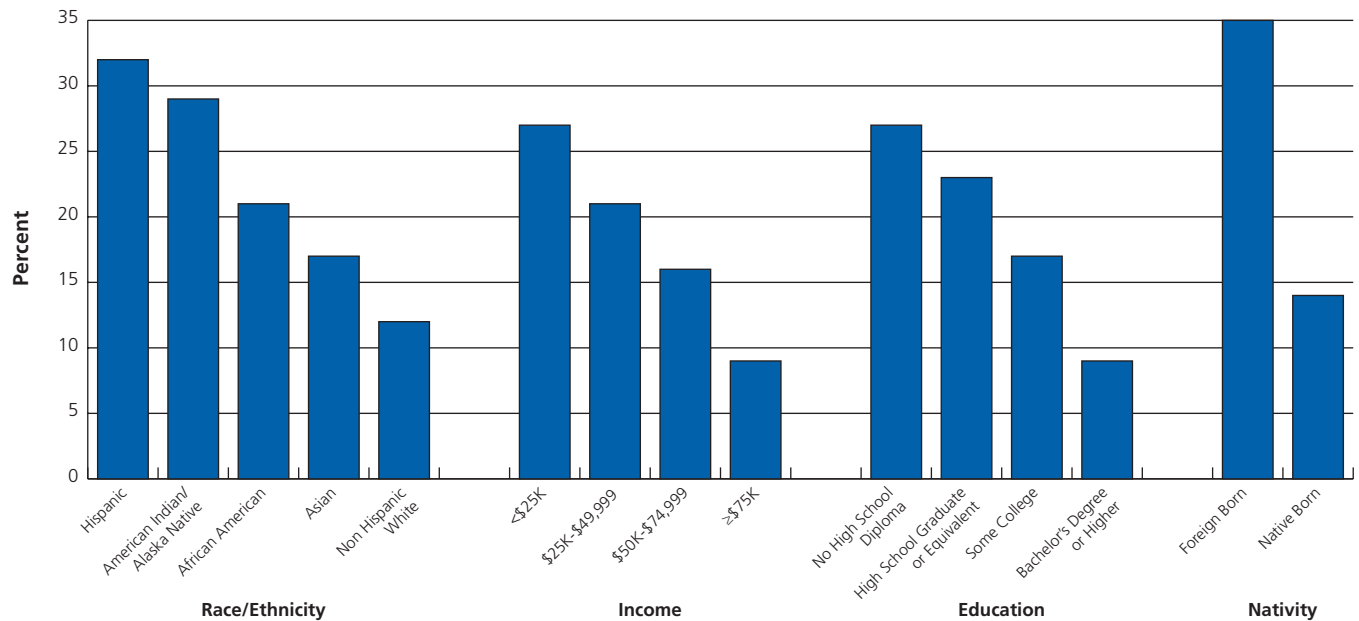
In addition to poverty and social discrimination, cancer occurrence in a population may also be influenced by cultural and/or inherited factors that decrease or increase risk. For example, Hispanic women have a lower risk of breast cancer probably partly because they tend to begin having children at a younger age, which decreases breast cancer risk. Individuals who maintain a primarily plant-based diet or do not use tobacco because of cultural or religious beliefs have a lower risk of many cancers. Higher rates of cancers related to infectious agents (stomach, liver, uterine cervix) in populations that include a large number of recent immigrants, such as Hispanics and Asians, may reflect a higher prevalence of infection in the country of origin. Genetic factors may also explain some differences in cancer incidence. For example, women from population groups with an increased frequency of mutations or alterations in the breast cancer sus-

ceptibility genes (BRCA1 and BRCA2), such as women of Ashkenazi Jewish descent, have an increased risk of breast and ovarian cancers. Genetic factors may also play a role in the elevated risk of prostate cancer among African American men and the incidence of more aggressive forms of breast cancer in African American women. However, genetic differences associated with race are thought to make a minor contribution to the disparate cancer burden between different racial/ethnic populations.<sup>14</sup> A more in-depth overview of cancer disparities within racial or socioeconomic groups can be found in *Cancer Facts & Figures 2004*.

### How many cancer deaths could be avoided by eliminating racial or socioeconomic disparities?

In 2007, about 164,000 men and women aged 25-64 years died of cancer in the US. More than 60,000 (37%) of these deaths could have been avoided if all segments of the population had the same cancer death rates as the most educated whites (Figure 2; see sidebar on page 27 for calculation method). During the same

**Figure 1. People without Health Insurance by Select Characteristics, US, 2009**



American Cancer Society, Inc., Surveillance Research

year, about 24,560 African Americans aged 25-64 years died of cancer. If all African American men and women of this age were to have the same cancer death rates as the most educated African Americans, more than 10,000 (40%) deaths could have been avoided. In contrast, if all African American men and women were to have the same death rates as their white counterparts with the same level of education, about 5,000 (20%) cancer deaths among African Americans could have been avoided. Thus, among African Americans, eliminating socioeconomic disparities has the potential to avert twice as many cancer deaths as eliminating racial disparities. This underscores the importance of poverty in cancer disparities across all segments of the population. In addition, much of the disparity between African Americans and whites within the same level of education results from differences in risk factors and access to health care that cannot be captured in terms of educational attainment.

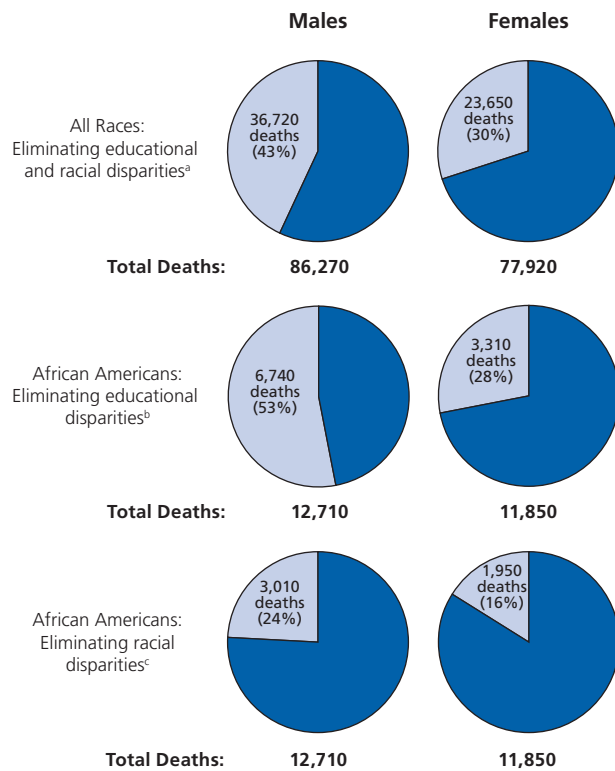
The estimated number of premature cancer deaths (deaths occurring between age 25-64) that could be avoided by eliminating socioeconomic and racial disparities was calculated by applying the age- and sex-specific cancer death rates of the most educated non-Hispanic whites in 2007 to all populations. Similarly, the age-, sex-, and educational attainment-specific cancer death rates of non-Hispanic whites in 2007 were applied to the corresponding population of African Americans in order to estimate the total number of premature cancer deaths that could be avoided in African Americans by eliminating racial disparities in cancer death rates.

### What Are the Strategies to Reduce and/or Eliminate Cancer Disparities?

In principle, equal application of existing knowledge about cancer prevention, early detection, and treatment to all segments of the population can substantially reduce and ultimately eliminate cancer disparities. This will require a health care delivery system that emphasizes health promotion and wellness; provides access to prevention, early detection, and treatment for all; is culturally and linguistically competent; is geographically accessible; is capable of appropriate care in a timely manner; and includes diversity within the health care provider workforce. In addition, more research is needed to improve the methodology for public health interventions, including community-based, participatory research, and to better understand how the environment influences health behaviors, and how cancer treatment can be monitored to ensure that all patients receive optimal care. Information is still lacking about how to prevent, detect, and cure many cancers, such as prostate cancer, which disproportionately affects African Americans.

**Health Promotion:** Health promotion and disease prevention are cornerstones of a long, healthy, and productive life. Smoking and obesity are the two major risk factors for cancer in the US, accounting for about 30% and 15%-20%, respectively, of all cancer deaths.<sup>15,16</sup> Since the first Surgeon General's report on the health hazards of smoking was published in 1964, smoking prevalence among US adults has decreased by about 50%. This was possible because of the implementation of proven policies and interventions at the community and state level, including

**Figure 2. Potential US\* Cancer Deaths That Could Have Been Avoided by Eliminating Educational and/or Racial Disparities, Ages 25-64, 2007**



\*Excludes Rhode Island and Georgia. <sup>a</sup>Age-specific cancer death rates of the most educated non-Hispanic whites in 2007 were applied to all races. <sup>b</sup>Age-specific cancer death rates of the most educated African Americans in 2007 were applied to all African Americans. <sup>c</sup>Age- and educational attainment-specific cancer death rates of non-Hispanic whites in 2007 were applied to the corresponding population of African Americans.

©2011, American Cancer Society, Inc., Surveillance Research

increased cigarette prices, clean air laws banning smoking in public places that changed the social norms of smoking, restrictions of advertising and counteradvertising of tobacco products, and policies restricting youth access to cigarettes. Yet 20% of US adults 18 and older (45 million) are current smokers, with the prevalence ranging from 5% in men with graduate degrees to 53% in men with a GED certificate (Table 2). There is an opportunity for substantial reductions in smoking prevalence and the associated morbidity and mortality among high-risk populations through targeted intervention programs. Clinicians can also play a major role in promoting cessation and discouraging initiation of smoking in persons of lower SES, who are more likely to smoke.<sup>17</sup>

In contrast to smoking, the prevalence of obesity has more than doubled among adults (from 15% to 33%), and tripled among adolescents aged 12-19 years (from 5% to 15.5%) since the 1970s. Half of all African American and Hispanic women are obese, compared to 1 in 3 white women. Overweight and obesity are associated with an increased risk of developing many cancers,

including cancers of the endometrium, colon, breast (occurring after menopause), esophagus, and kidney.<sup>15,16</sup>

Balanced caloric intake and a plant-based diet and regular physical activity are the best approaches to achieve and maintain a healthy body weight.<sup>18,19</sup> However, the physical environment often presents obstacles in the adoption of these healthy behaviors, especially in socioeconomically disadvantaged neighborhoods. Examples of community barriers to a healthy lifestyle include a high density of fast food restaurants, the absence of supermarkets with fresh fruits and vegetables, and a lack of parks, biking paths, and safe environments for physical activity. Affecting changes in social and physical environments requires public and community organizations working together to facilitate and promote policies that enable people to adopt and maintain healthy nutrition and engage in regular physical activity. Primary care physicians can and should counsel and assist patients who are overweight or obese in managing and controlling their body weight according to established guidelines.<sup>20-22</sup>

The US health care system emphasizes the diagnosis and treatment of diseases more than health promotion and prevention, in part because the compensation structure heavily favors the former. However, this may be changing with new health promotion and wellness initiatives at federal, state, and local governments and large private companies. As part of the Patient Protection and Affordable Care Act – health care reform legislation that was signed into law by President Obama in 2010 – annual wellness visits are now in place for Medicare beneficiaries. The federal government is also instituting model health promotion programs for its employees such as The Wellness Works program in the Office of Personnel Management. States with similar health promotion programs include Alabama, Washington, and Delaware.

**Improving Access to Care:** According to the US Census Bureau, more than 50.7 million Americans were uninsured in 2009.<sup>23</sup> Uninsured persons have limited access to health care across the cancer continuum, from prevention to early diagnosis, treatment, and palliative care. They are more likely to be diagnosed with an advanced stage of disease and less likely to receive early detection services and recommended treatment. A study by the American Cancer Society showed that uninsured or Medicaid-insured patients diagnosed with early stage colorectal cancer were less likely to survive five years than privately insured patients diagnosed with a more advanced stage of the disease.<sup>24</sup> This disparity likely reflects unequal treatment, generally poorer underlying health, and physical barriers to care, such as transportation to health facilities, among non-privately insured patients. It is important to note that many Medicaid patients are initially enrolled in the program at the time of cancer diagnosis, and were previously uninsured and without access to care. In addition, Medicaid beneficiaries are vulnerable to intermittent coverage loss because the Medicaid certification process requires frequent review and can disqualify individuals based on salary fluctuations. Therefore, even patients who were enrolled prior to

diagnosis may experience diminished access to care and consistent treatment.

**Cultural Competence and Diversity of Workforce:** Cultural competence is an important element in providing high-quality health care and preventive services. It reflects the ability to acquire and use knowledge about health-related beliefs, attitudes and practices, and communication patterns of clients and their families; increase community participation; and close the gaps in health status among diverse populations. For example, traditional values within the Hispanic culture emphasize the importance of family, respect, and personal familiarity. Increasing the number of minority health providers may substantially improve cultural competence and reduce language-access barriers (below). In addition, patients who are seen by health care providers of the same race or ethnic background report a higher level of satisfaction with their care and greater participation in decisions involving their health.<sup>25,26</sup> However, while African Americans, Hispanics, and Native Americans account for about 26% of the US population, only 6% of physicians are from these minority groups.<sup>27</sup> Therefore, more concerted effort is needed by public and private institutions to substantially increase the number of minority health care providers.

**Language:** In 2000, 47 million people (18% of the US population) spoke a language other than English at home, with Hispanics accounting for the majority of this population.<sup>28</sup> Proficiency in the English language is a major barrier to receiving adequate care for new immigrant patients or those who are not completely acculturated. For example, the colorectal cancer screening rate in persons who have resided in the US fewer than 10 years is half as high as the rate among those born in the US (28% compared to 55%). Several studies have shown that effective language services improve outcomes for patients with limited English proficiency by increasing satisfaction levels, use of health services, and compliance with recommended medical advice.<sup>29</sup>

**Literacy:** Illiteracy and health literacy are additional factors that affect access to and utilization of health care services.<sup>30</sup> Persons with low literacy are less likely to seek timely medical attention, to understand and follow the recommendations of their providers, and to successfully navigate the health care system.<sup>31,32</sup> According to the 2003 National Assessment of Adult Literacy (NAAL) survey, 14% of US adults 16 and older (30 million) had a below basic level of prose literacy, defined as the ability to use printed and written information to acquire knowledge and function in society. Individuals who did not graduate from high school, minorities (African Americans and Hispanics), the elderly, and those with disabilities were disproportionately represented in the below basic literacy level.

The health effects of illiteracy in the US have been considered by some as a silent epidemic largely because of lack of awareness among health care providers, despite its high prevalence.<sup>32</sup> Interventions that have been used or considered to alleviate this

problem in doctors' offices include educational videotapes, color-coded medication schedules, simply written educational materials and reminders, and literacy screening, although the latter approach is thought to cause patient embarrassment and is time consuming for doctors.

Health literacy is the ability to read, understand, and act on health information. Tens of millions of adults are unable to understand health information brochures, medical test results, and dosage instructions for over-the-counter or prescription drugs. According to the latest NAAL survey, approximately 36% (77 million) of the US adult English-speaking population has basic or below basic health literacy skills, the majority of whom are native-born.<sup>33</sup> Similar to illiteracy, health literacy levels are low among the elderly, those who have lower education levels, and the poor.<sup>34,35</sup> People with low health literacy are more likely to report poorer health, are less likely to use preventive services, are at greater risk of hospitalization, and are associated with higher health care costs.<sup>30,36</sup>

## Collection of Data on Socioeconomic Status

Collecting information on SES is extremely important in order to identify and monitor cancer disparities and evaluate the effectiveness of interventions. However, unlike in several European countries, information on SES is not routinely collected on medical records in the US, with the exception of recording educational attainment on death certificates. As a result, researchers in the US customarily use residential-based poverty rates, income, or educational attainment as a substitute for individual-level SES. Area-based SES is a very crude measure of individual SES because there is often a lack of uniformity among populations residing within the same geographic area, although neighborhood characteristics in and of themselves are contributing factors for disparities. Collection of individual indicators of SES (e.g., income, education) should be a core element of medical records in order to monitor progress in eliminating racial and socioeconomic health disparities.

## What Is the American Cancer Society Doing to Reduce Cancer Disparities?

Over the past 30 years, the American Cancer Society has issued a number of special reports on cancer disparities, including *The Culture of Poverty, Cancer and the Poor: A Report to the Nation*, and *Cancer in the Socioeconomically Disadvantaged*. These reports concluded that poverty is the primary contributing factor to cancer disparities between racial and ethnic groups, that racial differences in biological or inherited characteristics are less important, and that people living in poverty lack access to health care and endure greater pain and suffering from cancer.

In June 2004, the Society adopted a strategic framework of information, prevention and detection, quality of life, and research that included strategies for reducing health care disparities.<sup>37</sup>

The Society has implemented many programs that focus on prevention and services designed to meet the needs of cancer survivors and their families. In terms of their potential impact on disparity reduction, nationally developed programs can be divided into three major categories:

1. Technology-based programs such as the Society's Web site (cancer.org), which provides downloadable versions of *Cancer Facts & Figures* publications, including those for African Americans and for Hispanics, and our cancer information hotline (1-800-227-2345), where trained Cancer Information Specialists are available by telephone, 24 hours a day, 7 days a week to provide the latest information, day-to-day help, and emotional support to people during their cancer experience.
2. Broad-based community initiatives offered through the American Cancer Society, such as the Patient Navigator Program, which helps patients and their families understand and make their way through the complex medical system to ensure treatment completion; the Reach To Recovery® program, a one-on-one breast cancer support program; Hope Lodge®, which provides temporary housing to patients and caregivers during treatment far from home; and Road To Recovery®, which provides cancer patients rides to and from treatment because lack of transportation is a key deterrent for underserved or low SES populations receiving adequate health care.<sup>38</sup> The Patient Navigator Program and Road To Recovery, in particular, have the potential to greatly reduce health care disparities and even achieve equity in treatment completion.
3. Select population programs available through the Society that address specific health disparities. Circle of Life<sup>SM</sup> (COL), which trains American Indian and Alaskan Native (AIAN) women to contact family and friends about the importance of having regular mammograms, is currently offered in the Great Lakes (Indiana and Michigan) and Midwest (Iowa, Minnesota, South Dakota, and Wisconsin) Divisions. Let's Talk About It®, which was developed by the American Cancer Society in partnership with 100 Black Men of America, provides communities easy step-by-step ways to organize prostate cancer awareness events to empower African American men and their loved ones to reduce their risk of prostate cancer and make informed decisions about detecting and treating the disease. The program, which is currently available in the Midwest and East Central (Ohio and Pennsylvania) Divisions, utilizes the Society's revised prostate cancer screening guidelines and emphasizes informed decision making.

The availability of Society programs varies widely across the country because each Division makes its own strategic decisions in determining which programs and services best meet its population needs. Examples of select programs and services are shown in Table 3. They represent initiatives designed specifically

to meet the prevention, access to care, and patient-support needs of communities, some of which are in partnership with other organizations and systems (such as worksites, health care centers, hospitals, and health plans). Select programs to reduce disparities by government and private public health agencies are listed in Table 4.

## Research

The American Cancer Society has made the reduction of cancer health disparities a priority for research funding because of its overarching objective of eliminating disparities in cancer burden by 2015. Since 1999, the Society has funded 117 studies totaling \$99 million devoted to the poor and medically underserved. In addition, the Society's intramural research department focuses substantial resources on community-based interventions and disparities research. To learn more, visit [cancer.org/research](http://cancer.org/research).

Specific examples of ongoing intramural and extramural research addressing disparities include:

- Assessing the specific needs of African American breast cancer survivors through focus groups and surveys and using this information to develop programs and resources to educate and support African American breast cancer survivors
- A statewide representative sample of adults to examine African American-white disparities in cancer-risk factors in Georgia
- Investigating whether African Americans and whites who are diagnosed with colorectal cancer make changes in health behaviors (e.g., diet, physical activity, and dietary supplement use) and what effect these changes may have on cancer recurrence
- Researching treatment delays and the types of treatment received among African American breast cancer patients and exploring reasons for the less frequent treatment among African American women in an effort to improve breast cancer outcomes
- Monitoring racial, socioeconomic, and geographic disparities in the cancer burden, including differences in screening, stage at diagnosis, treatment, survival, and mortality
- Evaluating the usage and effectiveness of smoking cessation help lines in low socioeconomic and segregated African American communities, as well as examining smokers' preferences for various cessation treatments in order for the Society to target and increase use of cessation treatments within these communities
- Developing a mapping tool to identify and target underserved populations and assist the Society in more effectively allocating its programs and services

**Table 3. Select Examples of American Cancer Society Programs<sup>37</sup>**

Program	Program Description
Body and Soul	Faith-based initiative designed to reach priority populations such as African Americans and Latinos with linguistically appropriate and culturally competent health information and education
Circle Of Life	Program that trains Native American and Alaska Native women to contact family and friends about the importance of having regular mammograms. The program guidelines were developed to respect the values of native communities and in particular, to gain the support of tribal leaders at every phase.
Con Amor Aprendemos (With Love We Learn)	Program designed to raise awareness among Latino couples and clarify myths associated with HPV and cervical cancer. The program encourages culturally competent contact between participants and educators.
Deep South Network	Program implemented among African American communities to address the disparities in breast and cervical cancer mortality by encouraging coalition development, community empowerment, and utilizing community health advisors.
NYC Colon Cancer Screening Initiative (C5)	Partnership program between the NYC Department of Health and Mental Hygiene, NYC Council, the American Cancer Society, and 18 participating hospitals in New York City that assist in increasing colorectal cancer screening rates in the city, especially for the underserved, by funding screening colonoscopies to uninsured and underinsured New Yorkers; and to provide the Society's patient navigation services to cancer patients
Ozioma	National cancer information news service targeted toward African American and Latino populations. News releases are based on new cancer science and timely cancer topics.
Patient Navigator Program	Hospital-based service program employing individuals as patient navigators, serving as a barrier-reducing, focused intervention, in which services are provided to individual patients from all population groups for a defined episode of cancer-related care
Road To Recovery	Program that strives to improve the quality of life for all patients undergoing cancer care by providing transportation to their treatments and home again

## Public Policy

The American Cancer Society and the American Cancer Society Cancer Action Network<sup>SM</sup> (ACS CAN), the Society's nonprofit, nonpartisan advocacy affiliate, are dedicated to reducing cancer incidence and mortality rates among minority and medically underserved populations. This goal can be achieved by instituting effective policies and public health programs that promote overall wellness and help save lives. Listed below are some of the efforts at both the state and federal levels that the Society and ACS CAN have been involved with in the past few years:

- **Patient Protection and Affordable Care Act.** The Society and ACS CAN are working to ensure that key provisions of the Affordable Care Act (ACA) that benefit cancer patients and survivors are implemented as strongly as possible and are adequately funded. Some of the law's provisions that will directly help address disparities include:
  - Improving the affordability of coverage by increasing insurance subsidies and eliminating arbitrary annual and lifetime caps on coverage for all insurance plans so that families affected by cancer will face fewer financial barriers to care

- Focusing on prevention and early detection by requiring all insurance plans to provide coverage for essential, evidence-based preventive measures with no additional co-pays. As of January 2011, preventive services like colonoscopies are exempt from co-payments and deductibles under the Medicare program.
- Eliminating discrimination based on health status and preexisting conditions, which has been so detrimental to cancer patients over the years
- Increasing funding for community health centers, which provide comprehensive health care for everyone, regardless of the ability to pay
- Requiring qualified health plans to provide materials in appropriate languages, as well as the development of a strategy for increasing access to language translation services

ACS CAN will continue to look for ways to strengthen the legislation throughout the implementation process both at the federal and state level.



**Table 4. Select External Initiatives in Eliminating Cancer Disparities**

Program Name	Description	Population Served
<b>National Cancer Institute Programs</b>		
Community Networks Program (CFN)	Reduces cancer health disparities through community-based participatory education, training, and research among racial/ethnic minorities and underserved populations	25 institutions received \$95 million in 5-year grants
Patient Navigation Research Program (PNRP)	Focus on developing and testing patient interventions with respect to disparities in screening and follow up for patients who are racial/ethnic minorities, of lower SES, and rural-area residents	Breast, cervical, prostate, and colorectal cancer patients
Community Cancer Centers Program (NCCCP)	A pilot program to build a community-based research platform to support basic, clinical, and population-based research on cancer prevention, screening, diagnosis, treatment, survivorship, and palliative care at hospitals	Patients of community-based hospitals
Community Clinical Oncology Program (CCOP)	A network for testing and validating medical interventions against cancer. It improves the quality of cancer care in local communities by disseminating research findings and boosts participation of minority and underserved populations in cancer clinical trials.	Cancer patients needing new treatments
Center to Reduce Cancer Health Disparities	<ul style="list-style-type: none"> <li>Initiates, integrates, and engages in collaborative research studies to promote cancer health disparities research and to identify innovative scientific opportunities to improve outcomes in communities</li> <li>Leads NCI's efforts to train students and investigators from diverse populations to become competitive researchers in cancer and cancer health disparities research</li> <li>Creates state-of-the-art regional networks and centers dedicated to cancer health disparities research and care through geographic program management</li> </ul>	Populations experiencing a higher burden of cancer
<b>Centers for Disease Control and Prevention (CDC) Programs</b>		
National Breast and Cervical Cancer Early Detection Program (NBCCEDP)	Provides breast and cervical screening, diagnosis, and access to treatment to low-income, medically underserved, and uninsured women (especially minority women) through states, tribes, and territories	Women at risk for or diagnosed with breast, cervical cancers
National Comprehensive Cancer Control Program (NCCCP)	Provides seed funding and structure to develop and implement Comprehensive Cancer Control (CCC) plans. CCC communities pool resources to reduce the cancer burden by efforts to reduce risk, detect early, treat better, and improve survival.	Underserved communities
Colorectal Cancer Control Program (CRCCP)	Supports population-based screening efforts and provides colorectal screening services to low-income men and women aged 50-64 years who are underinsured or uninsured for screening	Low-income men and women
Racial and Ethnic Approaches to Community Health Across the US (REACH US)	CDC partners establish community-based programs and culturally appropriate interventions to eliminate health disparities.	Ethnic and racial minorities
Cancer Prevention and Control Research Network (CPCRN)	Accelerates the use of evidence-based cancer prevention and control in communities by advancing cancer prevention and control science and influencing public health and primary care practice.	Underserved populations
<b>Independent Programs</b>		
Project Brotherhood Colorectal Cancer Prevention	Culturally specific 12-hour curriculum to train barbers about colorectal cancer to increase screening rates among African American men. The program is funded by the American Cancer Society.	African American men
Intercultural Cancer Council (ICC)	Promotes policies, programs, partnerships, and research to eliminate the unequal burden of cancer in the US and its associated territories	Racial/ethnic minorities and the medically underserved
National Medical Association (NMA)	NMA partnered with the Society to develop and distribute culturally relevant patient and provider materials that focus on prevention, early detection, and treatment of breast, prostate, and colorectal cancers, and nutrition and physical activity.	African Americans and other underserved populations
National African American Tobacco Education Network (NAATEN)	A collaboration of national, state, and local organizations to eliminate tobacco use in the African American community	African Americans
African American Collaborative Obesity Research Network (AACORN)	Researchers and community-based partners dedicated to improving the quality and quantity of research addressing weight-related health issues in African American communities	African Americans
<b>Susan G. Komen for the Cure Grants</b>		
Career Catalyst in Disparities Research	Grants up to \$450,000 over three years to foster independent careers in disparities research and support programs of research into disparities in breast cancer	All populations facing breast cancer disparities
Investigator Initiated Research	Grants of up to \$200,000 per year for two to three years to explore new ideas and approaches leading to reductions in breast cancer mortality and/or incidence within the decade	All women
Post Baccalaureate in Disparities Research	Grants up to \$135,000 per student over three years to support training very early in their career to allow them to begin to define meaningful career paths focused on disparities in breast cancer.	All populations facing breast cancer disparities
American Association for Cancer Research	AACR collaboration with focus on cancer prevention, cancer disparities, and ensuring ethical, standardized tissue sample storage and access for patients and researchers	All populations facing breast cancer disparities

- **National Breast and Cervical Cancer Early Detection Program.** A high priority for the Society and ACS CAN at both the state and federal level is fighting to increase funding for the National Breast and Cervical Cancer Early Detection Program (NBCCEDP). This successful program, which recently celebrated its 20th anniversary, provides community-based breast and cervical cancer screening to low-income, uninsured, and underinsured women, about 50% of whom are from racial/ethnic minority groups.<sup>39-41</sup> Due to a large cut in funding, screening rates within the program declined to an all-time low in 2007; rates have been increasing slowly since, but still have not fully recovered. ACS CAN is asking Congress to increase funding to \$275 million for fiscal year 2012 to support continued growth and give women access to lifesaving screening services. While the Affordable Care Act will greatly improve access to screening, the NBCCEDP will remain an essential program for improving breast and cervical cancer screening and treatment in our nation's most vulnerable populations. It will be critical to use the program's infrastructure and community-outreach specialists to help women and their families receive the lifesaving services they need.
- **Colorectal Cancer Prevention, Early Detection, and Treatment Act.** The Society and ACS CAN are advocating for the Colorectal Cancer Prevention, Early Detection, and Treatment Act, a national screening, treatment, and outreach program focused on increasing colorectal cancer screening rates in low-income, medically underserved populations.
- **Patient Navigator Program.** The Society and ACS CAN continue to work with Congress to secure additional funding for the Patient Navigator Program, which helps patients in medically underserved communities work their way through the health care system, provides outreach and education for patients to encourage preventive screenings, and addresses needs that may impact compliance with screening and treatment. ACS CAN supports the Affordable Care Act's reauthorization of the Patient Navigator Program until 2015.

The Society and ACS CAN also are leading efforts to increase federal investment in cutting-edge biomedical and cancer research and treatments, and ways to expand access to them.

To learn more, to get involved, and to make a difference in the fight against cancer, visit [cancer.org/involved/advocate](http://cancer.org/involved/advocate).

## References

1. Haynes M, Smedley B, (eds.), eds. *The Unequal Burden of Cancer: An assessment of NIH research and programs for ethnic minorities and the medically underserved*. Washington DC: National Academies Press; 1999.
2. Kinsey T, Jemal A, Liff J, Ward E, Thun M. Secular trends in mortality from common cancers in the United States by educational attainment, 1993-2001. *J Natl Cancer Inst*. Jul 16 2008;100(14):1003-1012.
3. Pappas G, Queen S, Hadden W, Fisher G. The increasing disparity in mortality between socioeconomic groups in the United States, 1960 and 1986. *N Engl J Med*. Jul 8 1993;329(2):103-109.
4. Singh GK, Miller BA, Hankey BF, Feuer EJ, Pickle LW. Changing area socioeconomic patterns in U.S. cancer mortality, 1950-1998: Part I--All cancers among men. *J Natl Cancer Inst*. Jun 19 2002;94(12):904-915.
5. Steenland K, Hu S, Walker J. All-cause and cause-specific mortality by socioeconomic status among employed persons in 27 US states, 1984-1997. *Am J Public Health*. Jun 2004;94(6):1037-1042.
6. Jemal A, Ward E, Anderson RN, Murray T, Thun MJ. Widening of socioeconomic inequalities in U.S. death rates, 1993-2001. *PLoS One*. 2008;3(5):e2181.
7. Albano JD, Ward E, Jemal A, et al. Cancer mortality in the United States by education level and race. *J Natl Cancer Inst*. Sep 19 2007;99(18):1384-1394.
8. Byers T, Mouchawar J, Marks J, et al. The American Cancer Society challenge goals. How far can cancer rates decline in the U.S. by the year 2015? *Cancer*. Aug 15 1999;86(4):715-727.
9. U.S. Department of Health and Human Services. *Healthy People 2010*. 2nd ed. With Understanding and improving health. Washington: U.S. Government Printing Office. 2000.
10. Ward E, Jemal A, Cokkinides V, et al. Cancer disparities by race/ethnicity and socioeconomic status. *CA Cancer J Clin*. Mar-Apr 2004; 54(2):78-93.
11. Gross CP, Smith BD, Wolf E, Andersen M. Racial disparities in cancer therapy: did the gap narrow between 1992 and 2002? *Cancer*. Feb 15 2008;112(4):900-908.
12. Freeman HP. Poverty, culture, and social injustice: determinants of cancer disparities. *CA Cancer J Clin*. Mar-Apr 2004;54(2):72-77.
13. Smedley B, Stith A, Nelson A, eds. *Unequal Treatment: Confronting racial and ethnic disparities in health care*. Washington DC: National Academies Press; 2003.
14. Bach PB, Schrag D, Brawley OW, Galaznik A, Yakren S, Begg CB. Survival of blacks and whites after a cancer diagnosis. *JAMA*. Apr 24 2002; 287(16):2106-2113.
15. Calle EE, Rodriguez C, Walker-Thurmond K, Thun MJ. Overweight, obesity, and mortality from cancer in a prospectively studied cohort of U.S. adults. *N Engl J Med*. Apr 24 2003;348(17):1625-1638.
16. Smoking-attributable mortality, years of potential life lost, and productivity losses--United States, 2000-2004. *MMWR Morb Mortal Wkly Rep*. 2008 Nov 14; 2008;57(45):1226-1228.
17. Fiore MC, Jean CR, Baker TB, al. e. *Treating Tobacco Use and Dependence, 2008 Update. Clinical Practice Guideline*. Rockville, MD: US Department of Health and Human Services. Public Health Service;2008.
18. International Agency for Research on Cancer. IARC Handbooks of Cancer Prevention. Volume 6: Weight Control and Physical Activity. Lyon, France: IARC Press; 2002.
19. US Department of Health and Human Services. US Department of Agriculture. Dietary Guidelines for Americans. 2005; Available at: [health.gov/dietaryguidelines/](http://health.gov/dietaryguidelines/). Accessed September 20, 2005.

20. Brawer R, Brisbon N, Plumb J. Obesity and cancer. *Prim Care*. Sep 2009;36(3):509-531.
21. National Institutes of Health. National Cancer Institute. <http://www.cancer.gov/cancertopics/disparities>. Accessed March 14, 2011.
22. Orzano AJ, Scott JG. Diagnosis and treatment of obesity in adults: an applied evidence-based review. *J Am Board Fam Pract*. Sep-Oct 2004;17(5):359-369.
23. DeNavas-Walt C, Proctor B, Smith J. US Census Bureau, Current Population Reports, P60-238, *Income, Poverty and Health Insurance Coverage in the United States: 2009*, U.S. Government Printing Office, Washington, DC, 2010. 2010.
24. Ward E, Halpern M, Schrag N, et al. Association of insurance with cancer care utilization and outcomes. *CA Cancer J Clin*. Jan-Feb 2008;58(1):9-31.
25. Saha S, Komaromy M, Koepsell TD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. *Arch Intern Med*. May 10 1999;159(9):997-1004.
26. Kennedy EM. The role of the federal government in eliminating health disparities. *Health Aff (Millwood)*. Mar-Apr 2005;24(2):452-458.
27. Reede J. A Recurring Theme: The Need For Minority Physicians: Achieving adequate numbers of physicians to meet future population needs requires recruitment from diverse populations. *Health Affairs*. 2003; 22 (4):90-93.
28. US Census Bureau. Language use and English-speaking ability: 2000. Census 2000 Brief, October 2003. US Census Bureau. Accessed April 15, 2011.
29. Manson A. Language concordance as a determinant of patient compliance and emergency room use in patients with asthma. *Med Care*. Dec 1988;26(12):1119-1128.
30. Nielson-Bohlman L, Panzer A, Kindig D, (eds.), eds. *Health literacy: A prescription to end confusion*. Washington DC: National Academies Press; 2004.
31. Dewalt DA, Berkman ND, Sheridan S, Lohr KN, Pignone MP. Literacy and health outcomes: a systematic review of the literature. *J Gen Intern Med*. Dec 2004;19(12):1228-1239.
32. Marcus EN. The silent epidemic—the health effects of illiteracy. *N Engl J Med*. Jul 27 2006;355(4):339-341.
33. Kutner M, Greenberg E, Jin Y, Paulsen C. *The health literacy of America's adults: Results from the 2003 national assessment of adult literacy*. Washington, DC : National Center for Education Statistics: US Department of Education;2006.
34. Weiss BD, Reed RL, Kligman EW. Literacy skills and communication methods of low-income older persons. *Patient Educ Couns*. May 1995; 25(2):109-119.
35. Weiss BD, ed *Understanding health literacy: Implications for medicine and public health (pp 7-42)*. Chicago: American Medical Association Press; 2004. Schwartzberg J, VanGeest J, Wang C, eds. Epidemiology of low literacy.
36. Weiss BD, Palmer R. Relationship between health care costs and very low literacy skills in a medically needy and indigent Medicaid population. *J Am Board Fam Pract*. Jan-Feb 2004;17(1):44-47.
37. Elk R, Brawley OW, Fontham ET, et al. Addressing Cancer Health Disparities: The Role of the American Cancer Society: American Cancer Society.
38. Institute of Medicine (IOM). *Cancer Care for the Whole Patient: Meeting Psychosocial Health Needs*. Washington, DC2008.
39. American Cancer Society. *Cancer and The Poor: A Report to the Nation*. Atlanta, GA: American Cancer Society;1989.
40. Freeman H. *Report of the Interdepartmental Oversight Committee on Cancer Control and the Socioeconomically Disadvantaged: Proposed Plan of Action*. Philadelphia, PA1989.
41. Freeman HP. Cancer in the socioeconomically disadvantaged. *CA Cancer J Clin*. Sep-Oct 1989;39(5):266-288.