

# Cancer-Related Health Disparities in Women

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Cancer is the second leading cause of death (after heart disease) among women of all races in the United States.<sup>1</sup> The burden of cancer is not distributed equally—many racial and ethnic minority groups experience higher incidences, higher mortality, and poorer survival rates than do White Americans.<sup>2</sup> All cancer incidence and mortality rates declined from 1992 to 1997, the first such sustained decrease since the collection of cancer data began in the 1930s. For both men and women and in most minority populations, mortality has declined along with most of the leading causes of death from cancer. For some cancers, some ethnic minority groups have lower cancer rates than White Americans. Overall, however, minority groups have still not gained equal ground.<sup>3,4</sup> Further progress in reducing the toll of cancer—suffering, loss of life, and health care costs—depends on reducing health disparities by more effectively applying the best available strategies for prevention, early detection, and treatment to all populations.<sup>4</sup>

The nation's health objectives for the present decade call for the elimination of health disparities and increases in the quality and quantity of healthy life for all Americans.<sup>5</sup> The National Cancer Institute, the Office of Research on Women's Health, and other federal health research and service agencies are working aggressively to better understand the causes of health disparities and to develop effective interventions to eliminate them.<sup>6–10</sup> An important step forward in these efforts involves providing a comprehensive overview of the current situation and recent trends in a form that is accessible to scientists, health professionals, public health experts, and communities of color. *The Cancer in Women of Color* monograph (available on-line<sup>11</sup>)—a collaboration between the National Cancer Institute and the Office of Research on Women's Health of the National Institutes of Health—provides data on cancer in 9 populations of women of color: Mexican American, Puerto Rican, Cuban American, African American,

**Objectives.** This article synthesizes information about cancer in 9 populations of minority women: Mexican American, Puerto Rican, Cuban American, African American, Asian American, Native Hawaiian, American Samoan, American Indian, and Alaska Native.

**Methods.** Cancer registry data, social indicators, government sources, and published articles were searched for information on the background and cancer experience of these 9 racial/ethnic groups.

**Results.** Approximately 35 million women in these racial/ethnic groups live in the United States, and their numbers are increasing rapidly. Since 1992, incidence rates for major cancer sites have slowed or decreased among these groups, but declines in mortality have not occurred or have been smaller than for Whites. Gaps in early detection have narrowed, but minority women still lag behind Whites. Smoking and obesity remain common in these populations.

**Conclusions.** More culturally appropriate interventions and research are needed, and these efforts must involve the community and raise the quality of health services. (*Am J Public Health.* 2003;93:292–298)

Asian American, Native Hawaiian, American Samoan, American Indian, and Alaska Native. The selection of these minority groups for inclusion was based on recommendations from an advisory group at the time the project was conceived. This monograph provides state-of-the-science information about cancer in the context of the lives and sociocultural circumstances of women from these 9 minority groups. It represents the first compilation of cancer data regarding women in some of the smaller minority populations into an accessible format.

This article summarizes and synthesizes key information regarding the cancer experience of the 9 minority groups discussed in the monograph. It provides data on the demographic, cultural, health care, and cancer-related factors that contribute to health disparities and hold promise for reducing them. Special attention is given to available sources of relevant data and their limitations.

## DESCRIPTION OF POPULATIONS

### Population Size and Growth

The United States is more racially diverse today than ever before. Non-White residents constituted 30.9% of the total population in 2000, up from 24.4% in 1990.<sup>12</sup> Minority

racial and ethnic groups grew at a rate of 43.2% during the 1990s, more than 3 times the overall 13.1% rate of population growth, and more than 10 times the 3.5% increase in Whites.<sup>12</sup>

Table 1 shows the total population size in 2000 and the estimated number of adult women in each of the 9 specific racial/ethnic minority groups. The number of adult women in these groups ranges from 24 500 Alaska Native women to 15.3 million African American women. Population growth in each of these minority groups is higher than the national average, with increases ranging from 17% to 67% during the 1990s. Changes in the race/ethnicity categories used in the 2000 census make it difficult to pinpoint the precise changes for some groups. Moreover, the combination categories for Native Hawaiian/Other Pacific Islanders and American Indian/Alaska Natives do not distinguish between some of the specific ethnic groups.

An important defining feature of these racial/ethnic minority populations is their geographic distribution. For example, most Mexican Americans live in states in the South and West, as do the majority of American Indians. Two thirds of Cuban Americans live in Florida. African Americans comprise the highest percentage of populations in states in the

**TABLE 1—Population Size, Number of Adult Women, Percentage Change Since 1990, and Main Geographic Locations**

	Total in 2000 <sup>a</sup>	Estimated No. of Adult Women <sup>b</sup>	Percentage Change Since 1990 (Total Population)	Main Geographic Locations
Mexican American	21.2 million	10.6 million	52.9% increase	Majority live in California, Texas, Illinois, Arizona, New Mexico, Colorado
Puerto Rican	6 million	2 million	24.9% increase in US mainland	60% live in Puerto Rico, and 40% on US mainland, most in New York
Cuban American	1.24 million	515 000	18.1% increase	67% live in Florida
African American	36.4 million	15.3 million	21.5% increase	Highest population density in Southeast, mid-Atlantic, and Northeast
Asian American	11.9 million	4.8 million	72.2% increase	Most live in California, Hawaii, and New York
Native Hawaiian	242 100	120 500	8.5% 1 race Native Hawaiian/Pacific Islander (NH/PI); 129.6% race alone or in combination NH/PI	Most live in Hawaii
American Samoan	118 000	40 000	17.2% increase in American Samoa 1990–1995	About 50% live in American Samoa; others mainly in California and Hawaii
American Indian	4.1 million	1.5 million	15.3% 1 race (American Indian/Alaska Native); 92.0% race alone or in combination	Most live in a few Western and Southern states, both on and off reservations
Alaska Native	106 000	24 500	66.9% increase	Most live in Alaska, where they are 15% of total population

Note. Total US population = 281.4 million in 2000, a 13.2% increase since 1990 (US Census Bureau, 2001). From various sources,<sup>11</sup> mainly 2000 US census unless not available for the subgroup.

<sup>a</sup>Figures given include "race alone or in combination."

<sup>b</sup>Calculated from percentage female and percentage older than age 18 years, if available; otherwise, estimated as 33% of total population.

Southeast, mid-Atlantic, and Northeast regions. Most Asian Americans live in California, Hawaii, and New York, although new immigrants are increasingly settling in other regions. Two groups, Puerto Ricans and American Samoans, include people who live both in the US territories (Puerto Rico in the Caribbean, and American Samoa in the Pacific Ocean) and on the US mainland.

### Demographic and Social Indicators

Racial differences often reflect differences in socioeconomic status between majority and minority groups. Minority women tend to be younger, less educated, more often living in poverty, and less likely to have adequate access to health care.

With the exception of Cuban Americans, all of the groups indicated have younger median ages than do US women overall. Levels of educational attainment are also lower: Although the percentage of high school graduates in the United States increased from 77.6% to 84.1% between 1990 and 2000,<sup>12</sup> nearly all of the minority groups had significantly lower rates of high school graduation. Only Asian Americans had higher rates of high school and college graduation than the US average.<sup>12</sup>

Minority women are more likely to live in poverty than other groups, on the state level

and compared to the nation as a whole. The most recent national figures (1998) report that 11.8% of Americans live below the poverty level.<sup>12</sup> Poverty rates for women in 8 of the minority populations range from 14% to 59%, and only Asian American women have lower poverty rates than the US total. However, this figure for Asian Americans masks wide variation among ethnic subgroups, because some immigrant groups experience significantly higher rates of poverty than do other Asian subgroups.

Another social indicator of great importance to health status is access to health insurance and a regular source of health care. Minority women are less likely to have health insurance and more likely to be underinsured and to lack a regular source of health care. Moreover, they are further disadvantaged by other barriers: long distances to health clinics, language differences, and a lack of culturally sensitive health care.

### Major Historical and Cultural Influences

To better understand the life circumstances contributing to health disparities among women of color and to identify potential remedies, it is important to be aware of the major historical and cultural influences on women in minority ethnic/racial groups. Race is perhaps the most defining

social issue in the history of the United States. Historically, White populations invaded and subordinated other racial groups or brought persons of color to the United States to work as slaves.<sup>13</sup> Other minority groups came to the United States through political means, such as annexation of lands, or by immigration as political or economic refugees from their home countries. Most populations of women of color share a common history of discrimination, exclusion, and segregation.

Historical disadvantage, oppression, and racism are common experiences for African Americans, American Indians, Alaska Natives, and Native Hawaiians. Adverse living conditions, displacement, and diseases brought by nonindigenous peoples are well known to Mexican Americans, Native Hawaiians, American Indians, and Alaska Natives. Immigrant groups such as American Samoans, Puerto Ricans, and Asian Americans lose much of their former rural and subsistence lifestyles as they migrate to urban areas to secure employment. For many minorities, traditional spiritual and communal values have been lost through assimilation into the majority culture.

Core cultural values that emphasize close families, interdependence, religiosity, and a holistic view of health are shared by most

ethnic minorities in the United States. Also, women usually have been powerful stabilizing influences in their families, especially in raising children and managing family health. Traditional healing practices and the use of complementary and alternative medicine are widespread.<sup>14</sup> Key factors that affect the acceptability of Western medicine among minority women include culturally based beliefs about diseases (including cancer), communication styles that may differ from those of health providers, linguistic barriers, and actual or anticipated discrimination.

### Cancer Incidence, Mortality, and Risk Factors

The 1990s marked a turning point in cancer incidence rates in the United States and a period of increasingly rapid decline in cancer mortality.<sup>3</sup> After increasing steadily until 1992, cancer incidence rates for all cancer sites decreased by an average of 1.3% per year from 1992 to 1997. For cancer deaths, earlier rates of increase slowed from 1984 to 1991 and declined 0.6% per year from 1991 to 1995. They then declined much more rapidly at 1.7% per year from 1995 to 1997.<sup>3</sup> Although the continuing declines in overall cancer incidence and mortality rates are encouraging, ethnic/racial minority groups have not benefited as much as the overall population.

### Cancer Incidence and Trends

Table 2 summarizes cancer incidence rates and trends for White and minority women for all sites combined and for breast, lung, colorectal, and cervical cancers, for the most recent available reporting periods. For the period 1992 to 1998, Alaska Native women had the highest overall cancer incidence rates across groups, followed by White women and African American women. From 1992 to 1998, White women experienced slight increases in cancers of the breast and lung and decreases in other cancers. African American women had increases in breast cancer, and Asian American women had modest increases in all major cancers combined. No significant annual increases or decreases were observed among American Indian women. Among the 3 groups for whom incidence rates are not available (Puerto Rican, Cuban American, and American Samoan), case rate data show that breast, lung, and colorectal cancers were the most common cancer diagnoses.

### Cancer Mortality and Trends

For all cancers combined, from 1992 to 1998, White women had age-adjusted mortality rates of 138.0 per 100 000 women (Table 3). The rates were higher for African Americans (166.6) and Alaska Natives (181.4). Asian American and Pacific Islander, American Indian, and Hispanic women had substantially lower cancer mortality rates. Al-

though Alaska Natives had the highest mortality rates for colorectal and lung cancers, African Americans had the highest mortality rates for cancers of the breast and cervix. All groups except Alaska Native women experienced lower overall cancer mortality for the period 1992 to 1998 than for from the period 1988 to 1992.

### Survival

As cancer mortality has declined, 5-year survival rates have increased for White and minority women.<sup>15</sup> However, survival rates for minority women have improved more slowly, and these still lag behind for certain minority groups. Overall cancer survival rates from 1988 to 1997 were 0.62 for White women, but they were only 0.50 for American Indian, 0.55 for Alaska Native women, and 0.52 for African American women. Asian American women's overall cancer survival rates were 0.64.<sup>15</sup>

Most differentials in survival are attributed to the diagnosis of cancer at a later stage. The reasons for late diagnosis and poor cancer outcomes are becoming better understood and include disproportionate poverty and inferior medical care.<sup>16-18</sup> Recently, several studies showed that equal cancer treatment, particularly in the context of clinical trials, yields equal cancer outcomes among African Americans and Whites for breast, colorectal, and lung cancers.<sup>19-21</sup> Although clinical trials

**TABLE 2—Cancer Incidence and Trends for White and Minority Women**

	All Sites	Breast Cancer	Lung Cancer	Colorectal Cancer	Cervical Cancer	Trends and Comments
White	354.4	115.5	43.6	36.3	8.1	Increase in breast, lung; others decreased
Mexican American <sup>a</sup>	200.6	50.8	11.9	22.3	16.0	NA; may not be comparable to other groups shown
Hispanic <sup>a</sup>	237.7	68.5	18.7	23.2	14.4	Decrease in cervical cancer; little change in others for combined Hispanic groups
African American	337.6	101.5	45.7	44.7	11.0	Increase in breast; others decreased
Asian and Pacific Islander	252.1	78.1	22.7	31.0	10.3	Decrease in colorectal; others increased
Native Hawaiian <sup>b</sup>	321.0	105.6	43.1	30.5	9.3	Slight decline 1976-1981 in all sites combined; may not be comparable to other groups shown
American Indian	140.1	36.2	12.4	13.5	6.2	Alaska excluded
Alaska Native <sup>c</sup>	400.1	118.1	57.8	76.1	7.5	Increase in breast, lung, and colorectal; decreased cervical cancer incidence

*Note.* NA = not available. Rates per 100 000 women, for 1992-1998, unless otherwise noted. Age-adjusted to the 1970 US standard population. Population-based incidence data are unavailable for Puerto Rican, Cuban American, and American Samoan women.

*Source.* Surveillance, Epidemiology, and End Results program of the National Cancer Institute.<sup>15</sup>

<sup>a</sup>Data from Horn report on New Mexico Surveillance, Epidemiology, and End Results Registry. Hispanic data is for all Hispanic ethnicity groups combined.

<sup>b</sup>Data for 1988-1992 from Miller et al.<sup>2</sup>; unavailable for more recent period.

<sup>c</sup>Data for Alaska Native women derived from American Indian and Alaska Natives in the state of Alaska.

**TABLE 3—Cancer Mortality and Trends for White and Minority Women**

	All Sites	Breast Cancer	Lung Cancer	Colorectal Cancer	Cervical Cancer	Trends and Comments
White	138.0	24.3	34.6	13.9	2.4	Decrease in breast and colorectal; increase in lung cancer
Mexican American <sup>a</sup>	98.5	16.4	10.1	11.1	3.6	NA; may not be comparable to other groups shown
Hispanic <sup>a</sup>	84.3	14.8	10.9	8.0	3.3	Little change overall
African American	166.6	31.0	33.6	19.6	5.7	Increase in lung; slight decreases in others
Asian and Pacific Islander	82.4	11.0	15.1	8.9	2.7	No overall mortality change
Native Hawaiian <sup>b</sup>	168.0	25.0	44.1	11.4	NA	May not be comparable to other groups shown
American Indian <sup>c</sup>	87.7	12.0	20.1	8.2	2.9	Recent data derived from more sites than earlier data
Alaska Native <sup>d</sup>	181.4	21.5	44.2	30.4	3.1	Increase in breast and colorectal; decrease in cervical cancer mortality

*Note.* NA = not available. Rates per 100 000 women, for 1992–1998, unless otherwise noted. Age-adjusted to the 1970 US standard population. Population-based incidence data are unavailable for Puerto Rican, Cuban American, and American Samoan women.

*Source.* Surveillance, Epidemiology, and End Results program of the National Cancer Institute.<sup>15</sup>

<sup>a</sup>Data from Horn report on New Mexico Surveillance, Epidemiology, and End Results Registry. Hispanic data is for all Hispanic ethnicity groups combined.

<sup>b</sup>Data for 1988–1992 from Miller et al.<sup>2</sup>; unavailable for more recent period.

<sup>c</sup>Data for American Indian women derived from American Indian and Alaska Natives in 11 Surveillance, Epidemiology, and End Results areas (Alaska excluded).

<sup>d</sup>Data for Alaska Native women derived from American Indian and Alaska Natives in the state of Alaska.

are not identical to the care that is provided in usual practice, the literature is increasingly compelling in showing that the association of race and cancer outcomes is not simply biological, but also appears to be influenced by the quality of treatment.<sup>20</sup>

### Risk Factors and Early Detection

When differences in the use of proven early-detection strategies and well-known behavioral risk factors contribute to disparate cancer prevalence and mortality rates, the implications for intervention are clear. Mammography use, regular Papanicolaou tests, tobacco use, certain dietary practices, and obesity may explain some ethnic disparities in women's cancers (Table 4).

In 1998, 68.1% of White women reported having had a mammogram within the previous 2 years.<sup>1</sup> For women of color, rates were lower, ranging from 44.6% to 64%, although the differences narrowed during the 1990s. Physicians' advice plays a key role in mammography use. Recent findings suggest that socioeconomic status, not race/ethnicity, accounts for much of the racial difference in physicians' advice about mammography.<sup>22</sup> The creation of the Centers for Disease Control and Prevention's National Breast and Cervical Cancer Early Detection Program in 1990—which provides cancer screening services to underserved women—substantially increased the percentage of women in low-

income households nationwide who reported having had a recent mammogram.<sup>23</sup>

As of 1998,<sup>1</sup> 80% of White women reported having had a Papanicolaou test within the past 3 years, a rate similar to those for African American, Cuban American, Puerto Rican, American Indian, and Native Hawaiian women. Less frequent use of Papanicolaou tests was found among Alaska Natives, American Samoans, Mexican Americans, and some Asian American groups.

In 1998, 22% of White women smoked, which represents a decrease from 27.7% in 1985.<sup>1</sup> Smoking rates were even lower among Mexican American, Asian American, American Samoan, and African American women. However, higher smoking rates were found in Alaska Native, Puerto Rican, and Native Hawaiian women. American Indian tribes vary widely in their tobacco use (from 20% to 37% in recent surveys). The use of smokeless tobacco is also a problem among women in some American Indian populations.

Dietary factors account for as many as 35% of all cancers. Data from the Multiethnic Cohort Study in Hawaii and Los Angeles provide recent comparative information for Latino, Black, Native Hawaiian, and Asian American women.<sup>24</sup> Mexican Americans and Native Hawaiians consume high-calorie and high-fat diets, but they also eat large amounts of fruit and vegetables. Asian Americans con-

sume low-fat diets, and Blacks eat few vegetables but many fruits.<sup>24</sup> For many ethnic minorities, acculturation to an "American diet" means increasing their intake of animal fat and "junk foods," whereas traditional Asian, Hispanic, Alaska Native, and Native Hawaiian dietary patterns are high in complex carbohydrates and relatively low in fat.

Obesity is a risk factor for diabetes, cardiovascular disease, and some types of cancer, although its relationship to cancer incidence and mortality for various cancer sites and across the life span is complex. When obesity reflects a low intake of cancer-protective foods (e.g., fruits, vegetables, complex carbohydrates), it is likely to increase the risk of developing cancer. Obesity rates are high in Hispanic, African American, Native Hawaiian, American Samoan, American Indian, and Alaska Native women. For White women, 1994 data yield rates of obesity of 23.5% and rates of overweight (including obesity) of 48%.<sup>1</sup>

### Behind The Numbers: Subgroup Variation

More data is available on cancer incidence, mortality, survival, risk factors, and early detection among racial/ethnic minority women than ever before. Even so, some racial/ethnic categories reflect numerous and diverse subgroups. One source of variation is geographic location. For example,

**TABLE 4—Risk Factors and Early Detection for Minority Women**

	Mammography Within 2 Years, Aged 40 Years and Older	Papanicolaou Test Within 3 Years	Tobacco Use	Diet and Obesity
Mexican American	59% (1998); lowest use of mammograms among Hispanic women	73% (1998)	Smoking 13.6%; more smoking with increased acculturation	29%–39% overweight and obese; high-calorie, high-fat diet, also high in fruit and vegetables
Puerto Rican	64% (1998)	77% (1998)	30.3% smoking; highest among Hispanic groups	28%–39% obesity; high animal fat intake in Puerto Rico
Cuban American	62% (1998); previously low, increased in the 1990s	78% (1998); Papanicolaou test use increased after outreach programs	24.4% smoking rate	31.6% overweight; 34.9% eat a variety of foods, and 75.5% eat junk food daily
African American	65.9% (1998)	80% (1998)	21% smoking in 1998, down significantly since 1985	66.6% overweight or obese; low intake of vegetables but high intake of fruit
Asian American	60.7% overall (1998); variable across ethnic subgroups, range 31%–70%	67% overall (1998); ranges 43%–95%; lowest use among Vietnamese, recent immigrants, and non-English speaking	Low smoking rates among females, varying 7%–19% by ethnic group	13%–26% obese, varying across ethnic groups; traditional Asian diet is protective; animal fat increases with acculturation
Native Hawaiian	63% reported recent mammogram; 73% ever had a mammogram	83% reported recent Papanicolaou test, although rates declined in older women (aged 65 years and older)	30% smoking rate, highest in state of Hawaii	More than 60% overweight or obese; high caloric intake, high fat, meat, fruit, and vegetable intake
American Samoan	40%–70% reported recent mammogram	46% reported recent Papanicolaou test	Estimated 11% smoking rate	High rates of obesity and related risks; migration accompanied by shift to high-fat foods
American Indian	44.6% (1998) combined American Indian/Alaska Native	72% combined American Indian/Alaska Native (1998)	Wide variation across tribes and regions; 20%–37% in recent surveys; smokeless tobacco use a problem	High obesity rates (in 1 urban area, 69.6% overweight and 41.6% obese)
Alaska Native	No information available separate from American Indians (44.6% in 1998)	62% within 3 years; 15% annual Papanicolaou test (72% American Indian/Alaska Native combined, 1998)	High rates, estimated 35.6% nationwide	More than 60% overweight, with 32.8% obese; dietary fat in nontraditional foods is high; fish intake also is high

Note. Information from various sources (see *Cancer in Women of Color* monograph<sup>11</sup>).

across states, the proportion of adults with no health insurance varies widely within a single race/ethnicity category such as American Indians/Alaska Natives.<sup>25</sup> A second source of variation is ethnic subgroups, such as Indian tribes and Asian Americans' countries of origin. Asian Americans' mammography use in 1996 ranged from 50% for Vietnamese women to 70% for Chinese women. Age-adjusted incidence rates for lung cancer in American Indian women ranged from 18.3 per 100 000 in Pima Indians to 53.5 per 100 000 in Sioux tribes. Other sources of variation include socioeconomic status, cultural beliefs, and accessibility of health services. Because it is not currently possible to obtain population-based information for all relevant factors in various subgroup populations, it is important to

exercise caution in generalizing reported data to unique subgroups in distinct locales. It is also essential to supplement published data with primary sources of surveillance and needs assessment information before mounting awareness campaigns and preventive interventions.

### CANCER DATA SOURCES AND NEEDS

Accurate and timely cancer data are critical to efforts to reduce cancer-related health disparities among women.<sup>4</sup> Because of the enormous population growth and shifts in racial/ethnic groups, new cancer statistics should be examined using up-to-date denominator data from the 2000 census and later. Practitioners, community members, and researchers should

not rely on out-of-date secondary data sources. Also, because disparities are most apparent in the context of trends in the overall population and in comparable majority ethnic groups, data for single groups should not be used in isolation.

The National Cancer Institute recently expanded the Surveillance, Epidemiology, and End Results (SEER) registry program to include 26.3% of the population across all races in the United States.<sup>15</sup> Coverage of American Indians and Alaska Natives, Asian American subgroups (Japanese, Filipino, and Chinese), Native Hawaiians, and Hispanics exceeds that for the general population, though the SEER registries do not reflect a representative national sample. SEER data are available in expanded race categories, but age-adjusted rates for these groups (Mexican

Americans, Puerto Ricans, Cuban Americans) have not yet been published. Limitations exist on data collected through the SEER program because of variation in clinicians' use of diagnostic tests and cancer staging.<sup>4</sup> Also, national data for racial/ethnic groups may be insufficient to describe the cancer experience in specific locations, tribes, and people from various countries of origin. Some experts have called for the inclusion of socioeconomic status as a stratification variable in cancer statistics to help disentangle race/ethnicity and socioeconomic status as correlates of cancer causation and outcomes.<sup>26,27</sup>

Accurate data on cancer incidence, mortality, and survival rates depend on accurate contemporaneous census data. The 2000 census represents remarkable advances in the identification of racial groups but raises new complexities that must be addressed. The use of self-identification for mixed-race persons as "race in combination with other races"<sup>12</sup> presents new challenges, among them the question of whether it is possible for hospitals to report cancer cases by both single- and mixed-race ethnic groups. Health care privacy laws and concerns about discrimination must be considered in efforts to collect more accurate data on cancer diagnoses, treatment, and outcomes.

A further consideration in cancer research involving minorities relates to the need for greater minority participation in cancer research, including behavioral and risk factor surveys and clinical trials.<sup>4,28</sup> Although accrual patterns now reveal that women and ethnic/racial minorities are proportionately represented, the numbers often are too small to allow subgroup analyses. It is also important to conduct studies that are large enough to include sufficient numbers of minority respondents at various levels of educational attainment, so that the effects of this important variable can be more carefully differentiated.<sup>26</sup>

## A CALL TO ACTION

Understanding cancer-related health disparities in women is an important step toward improving health and the quality of life for millions of minority women. Recent trends in decreased incidence and mortality from most

cancers show that preventive strategies, early detection methods, and successful treatments of cancer are more readily available. More research is needed to address social, cultural, and biological determinants of differential cancer profiles.<sup>4</sup>

Traditional beliefs of many ethnic groups include a strong sense that an individual's health is just one part of the holistic balance of life. By working with this philosophy rather than against it, researchers and practitioners can develop effective and culturally sensitive interventions. Health care practitioners and researchers must respect the traditional beliefs and appreciate the cultural contexts of the groups with which they work. They must also understand the skepticism and distrust that many minority groups have for researchers and health providers, which is based on a history of discrimination and exclusion.

Inferior medical care for racial and ethnic minority women must be considered unacceptable.<sup>17</sup> Issues that require attention include socioeconomic status, educational and language barriers, differences between minority women and mainstream health care providers in verbal and nonverbal communication styles, expectations for care, and beliefs regarding the efficacy of complementary and alternative therapies.

Aggressive and comprehensive plans to expand cancer registries, improve the ascertainment of racial/ethnic information, collect socioeconomic data along with cancer statistics, support intervention research, improve access to care, and improve the translation of research to application are all priorities for the immediate future.<sup>6,9,15</sup> Multidisciplinary, collaborative approaches and partnerships with communities of color are needed to accelerate the translation of research into practice and health improvement. The National Cancer Institute's Special Populations Networks for Cancer Awareness, Research, and Training is one such effort.<sup>29</sup>

## CONCLUSIONS

Cancer affects women in various population subgroups in distinct ways.<sup>2</sup> Historically, women have been underrepresented in cancer research and cancer control programs and often have not received state-of-the-art

cancer treatment. Extensive and up-to-date information on the cancer experience and its determinants in women from 9 racial and ethnic minority groups is now available. The *Cancer in Women of Color* monograph<sup>11</sup> establishes a baseline for further research and will advance progress toward eliminating health disparities. It provides direction for those who are planning programs, services, and policies to combat cancer in women and minority populations. ■

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**Note.** Much of the information included in this article is based on detailed reviews reported in the forthcoming monograph *Cancer in Women of Color 2003* [on-line at <http://dcccps.nci.nih.gov/>]. Readers are encouraged to refer to the full monograph for more in-depth information.

## Contributors

K. Glanz conceived and coordinated the development of this article, synthesized data into tabular format, and was the lead writer. R. Croyle and V. Pinn led the development of the larger review of data on cancer in women of color and participated in writing and revising the article. V. Chollette assisted with identifying and updating key data sources and participated in writing and revising the article.

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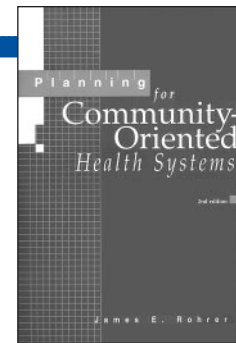
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## Human Participant Protection

No protocol approval was needed for this study.

## References

1. Health, United States, 2000. *With Adolescent Health Chartbook*. Hyattsville, Md: National Center for Health Statistics; 2000.
2. Miller BA, Kolonel LN, Bernstein L, et al, eds. *Racial/Ethnic Patterns of Cancer in the United States, 1988–1992*. Bethesda, Md: National Cancer Institute; 1996. NIH publication 96-4104.
3. Howe HL, Wingo PA, Thun MJ, et al. Annual report to the nation on the status of cancer, 1973 through 1998, featuring cancers with recent increasing trends. *J Natl Cancer Inst*. 2001;93:824–842.
4. Committee on Cancer Research Among Minorities and the Medically Underserved, Institute of Medicine (Haynes MA, Smedley BD, eds). *The Unequal Burden of Cancer: An Assessment of NIH Research and Programs for Ethnic Minorities and the Medically Underserved*. Washington, DC: National Academy Press; 1999.
5. *Healthy People 2010: Understanding and Improving Health*. Washington, DC: US Dept of Health and Human Services; 2000.
6. National Cancer Institute. The NCI strategic plan to reduce health disparities. 2001. Available at: <http://www3.cancer.gov/announcements/healthdisp.html> (PDF file). 2001. Accessed March 20, 2002.
7. Office of Behavioral and Social Sciences Research. Strategic plan for health disparities research, FY 2002–2006. 2001. Available at: <http://obssr.od.nih.gov/Activities/HealthDisp.htm>. Accessed March 20, 2002.
8. Centers for Disease Control and Prevention, Office of the Director. CDC performance plans FY 1999 and FY 2000. 2001. Available at: <http://www.cdc.gov/od/perfplan>. Accessed March 20, 2002.
9. Office of Research on Women's Health. Strategic plan to address health disparities among diverse populations of women. 2000. Available at: <http://www4.od.nih.gov/orwh/pubs.html>. Accessed March 20, 2002.
10. *Office of Research on Women's Health, Agenda for Research on Women's Health for the 20th Century*. Bethesda, Md: National Institutes of Health, 1999.
11. Glanz K. Cancer in women of color. 2003. Available at: <http://dceps.nci.nih.gov>. Accessed March 20, 2002.
12. *US Census 2000: Overview of Race and Hispanic Origin*. Washington, DC: US Census Bureau; March 2001.
13. Freeman HP. The meaning of race in science: considerations for cancer research. *Cancer*. 1998;82:219–225.
14. Maskarinec G, Shumay DM, Kakai H, Gotay CC. Ethnic differences in complementary and alternative medicine use among cancer patients. *J Altern Complement Med*. 2000;6:531–538.
15. National Cancer Institute. *Surveillance, Epidemiology, and End Results Data; SEER 3.0* [public use CD-ROM]. 2000.
16. Freeman HP. The meaning of race in cancer of the breast [comment]. *Cancer J Sci Am*. 1997;3:76–77.
17. Freeman HP, Payne R. Racial injustice in health care. *N Engl J Med*. 2000;342:1045–1047.
18. Lannin DR, Mathews HF, Mitchell J, et al. Influence of socioeconomic and cultural factors on racial differences in late-stage presentation of breast cancer. *JAMA*. 1999;279:1801–1807.
19. Dignam J, Colangelo L, Tian W, et al. Outcomes among African-Americans and Caucasians in colon cancer adjuvant therapy trials: findings from the National Surgical Adjuvant Breast and Bowel Project. *J Natl Cancer Inst*. 1999;91:1933–1940.
20. Brawley OW, Freeman HP. Race and outcomes: is this the end of the beginning for minority health research? *J Natl Cancer Inst*. 1999;91:1908–1909.
21. Hodgson DC, Fuchs CS, Ayanian JZ. Impact of patient and provider characteristics on the treatment and outcomes of colorectal cancer. *J Natl Cancer Inst*. 2001;93:501–515.
22. O'Malley M, Earp J, Hawley T, Schell M, Mathews H, Mitchell J. The association of race/ethnicity, socioeconomic status, and physician recommendation for mammography: who gets the message about breast cancer screening? *Am J Public Health*. 2001;91:49–54.
23. *The National Breast and Cervical Cancer Early Detection Program 2001: At-A-Glance*. Atlanta, Ga: Centers for Disease Control and Prevention; 2001. Available at: <http://www.cdc.gov/cancer/nbcedp/bccpdfs/bccaag01.pdf>. Accessed November 30, 2002.
24. Kolonel LN, Henderson BE, Hankin JH, et al. A multiethnic cohort in Hawaii and Los Angeles: baseline characteristics. *Am J Epidemiol*. 2000;151:346–357.
25. Bolen JC, Rhodes L, Powell-Griner EE, Bland SD, Holtzman D. State-specific prevalence of selected health behaviors, by race and ethnicity—Behavioral Risk Factor Surveillance System, 1997. *MMWR CDC Surveill Summ*. 2000;49:1–60.
26. Krieger N, Quesenberry C, Peng T, et al. Social class, race/ethnicity, and incidence of breast, cervix, colon, lung, and prostate cancer among Asian, black, Hispanic, and white residents of the San Francisco Bay Area, 1988–1992 (United States). *Cancer Causes Control*. 1999;10:525–537.
27. Liu L, Deapen D, Bernstein L. Socioeconomic status and cancers of the female breast and reproductive organs: a comparison across racial/ethnic populations in Los Angeles County, California (United States). *Cancer Causes Control*. 1998;9:369–380.
28. Underwood SM, Alexander GA. Participation of minorities and women in clinical cancer research. *Ann Epidemiol*. 2000;10(8 suppl):S1–S110.
29. Special Population Networks: The National Cancer Institute. Available at: <http://crchd.nci.nih.gov/spn/>. Accessed March 20, 2002.

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