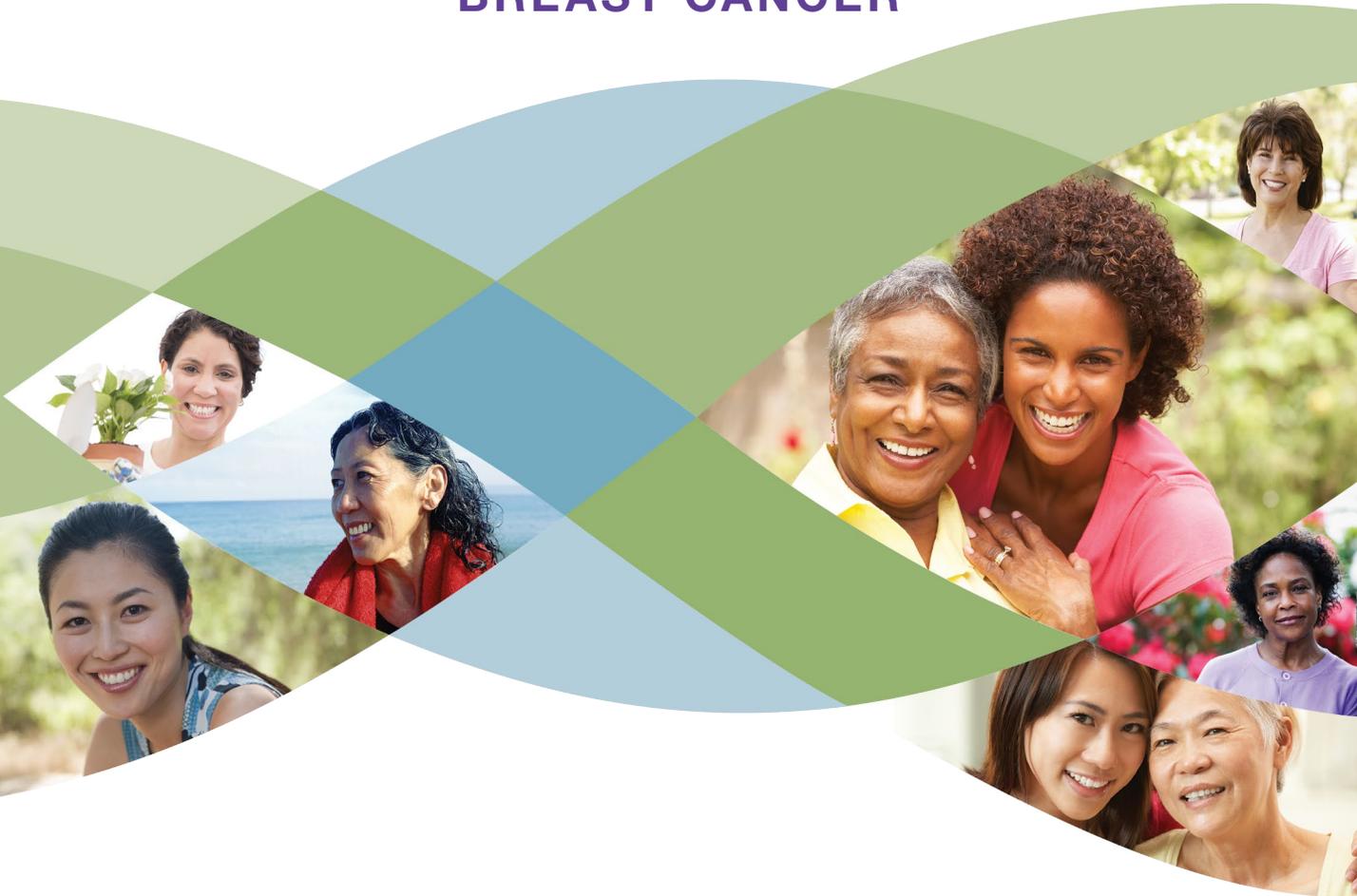


**WOMEN  
OF COLOR**

**HEALTH**  
INFORMATION  
COLLECTION

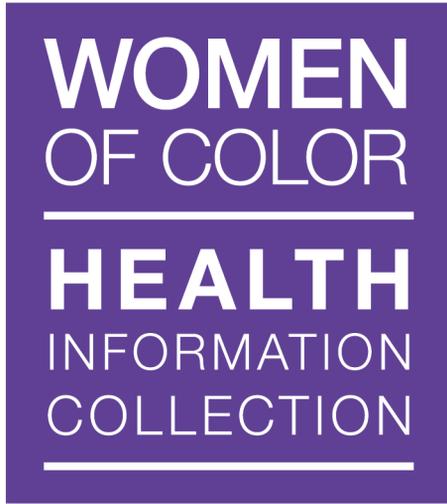
**BREAST CANCER**



**National Institutes of Health**  
*Office of Research on Women's Health*

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**BREAST CANCER**

**Office of Research on Women's Health**

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# WOMEN OF COLOR IN THE U.S. POPULATION

Of the nearly 309 million people living in the United States (according to the U.S. Census conducted April 1, 2010), more than half (approximately 157 million, or 50.8 percent) were women (see Table 1). More than 56 million—more than a third (36.1 percent)—were women of color. These 56.7 million women of color were distributed as follows: 44 percent Hispanic, 35 percent non-Hispanic black, nearly 14 percent non-Hispanic Asian, 2.0 percent non-Hispanic American Indian and Alaska Native (AI/AN), and 0.4 percent non-Hispanic Native Hawaiian and Other Pacific Islander. An additional 5 percent of women of color identified themselves as belonging to two or more races. In raw numbers, the U.S. population includes nearly 25 million Hispanic women, nearly 20 million non-Hispanic black women, more than 7 million non-Hispanic Asian women, more than 1 million non-Hispanic AI/AN women, and more than 246,000 non-Hispanic Native Hawaiian and Other Pacific Islander women.<sup>1</sup>

## LEADING CAUSES OF DEATH IN FEMALES

During 2009, the 10 leading causes of death for females were, in decreasing rank order, the following: heart disease; cancer; cerebrovascular diseases (primarily stroke); chronic lower respiratory diseases; Alzheimer's disease; unintentional injuries; diabetes mellitus (diabetes); influenza and pneumonia; nephritis, nephritic syndrome, and nephrosis (kidney disease); and blood poisoning (septicemia).<sup>2</sup> Although death rates from heart disease have been falling for the past 60 years, heart disease accounted for the greatest number of age-adjusted deaths among black females, Hispanic females, and females of all racial groups combined. Cancer was responsible for the greatest number of age-adjusted deaths among AI/AN females, Asian and Pacific Islander females, and white females.<sup>2</sup> The top two causes of death—heart disease and cancer—accounted for 48 percent of all deaths among females in the United States (see Figure 1).<sup>2</sup>

# Table 1

Female Population by Race and Hispanic Origin for the United States, April 1, 2010

Race	Race Alone (number)	Percentage of Total Population	Race Alone or in Combination* (number)	Percentage of Total Population*
Female Population	156,964,212	100.0	156,964,212	100.0
American Indian and Alaska Native	1,849,811	1.2	3,083,750	2.0
Asian	7,941,039	5.1	9,208,460	5.9
Black or African American	21,045,595	13.4	22,580,483	14.4
Native Hawaiian and Other Pacific Islander	331,721	0.2	664,743	0.4
White	122,238,141	77.9	125,351,477	79.9
Two or more races	3,557,905	2.3	**	**
Hispanic or Latina Origin and Race	Race Alone (number)	Percentage of Total Population	Race Alone or in Combination* (number)	Percentage of Total Population*
Female Population	156,964,212	100.0	156,964,212	100.0
Hispanic or Latina (of any race)	24,858,794	15.8	24,858,794	15.8
Not Hispanic or Latina	132,105,418	84.2	132,105,418	84.2
American Indian and Alaska Native	1,147,502	0.7	2,072,064	1.3
Asian	7,691,693	4.9	8,766,145	5.6
Black or African American	19,853,611	12.6	21,080,725	13.4
Native Hawaiian and Other Pacific Islander	246,518	0.2	512,076	0.3
White	100,301,335	63.9	102,803,203	65.5
Two or more races	2,864,759	1.8	**	**

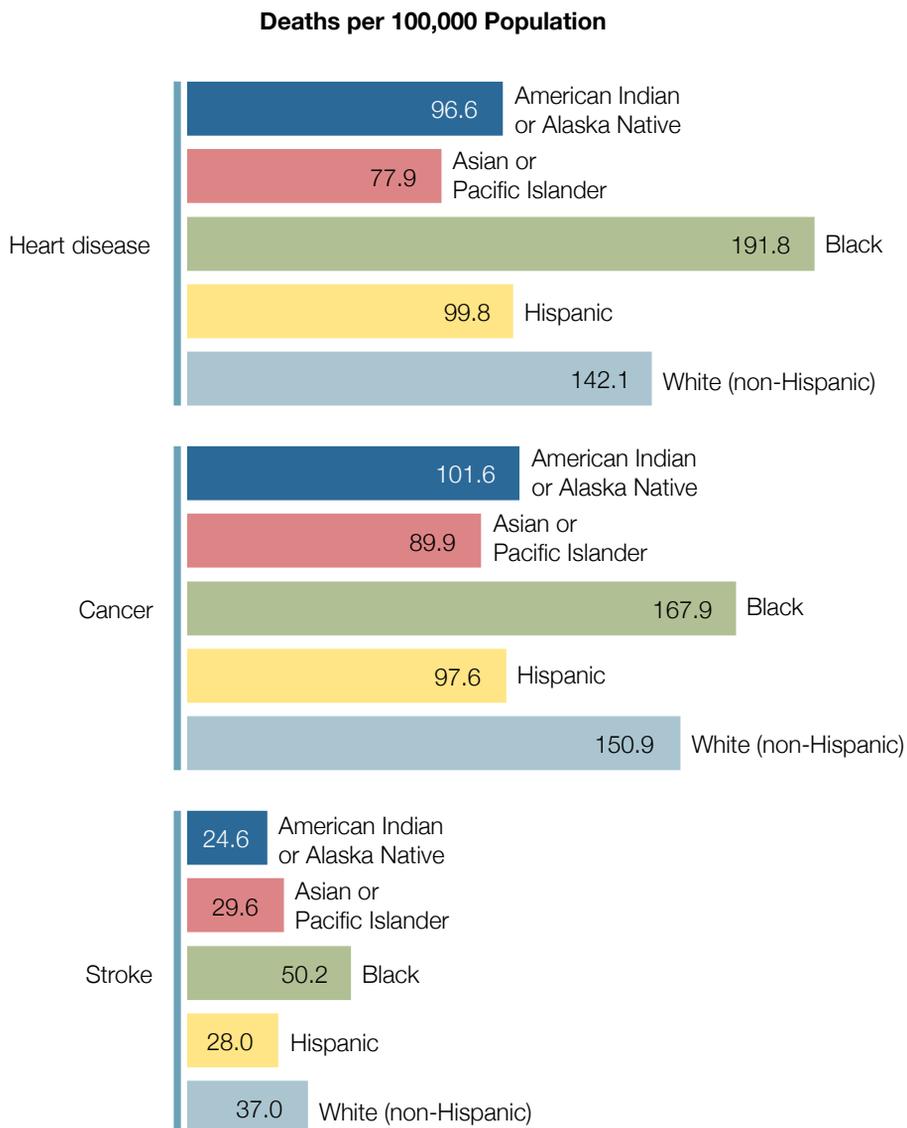
\* "In combination" means in combination with one or more other races. The sum of the five race groups adds to more than the total population because individuals may report being of more than one race.

\*\* The population reporting being of two or more races is reflected within each of the designated racial/ethnic categories above.

Source: U.S. Census Bureau, Population Division. (2012, May 16). *National characteristics: Vintage 2011. Table 3: Annual estimates of the resident population by sex, race, and Hispanic origin for the United States: April 1, 2010 to July 1, 2011* (NC-EST2011-03) [Data file]. Retrieved March 28, 2013, from <http://www.census.gov/popest/data/national/asrh/2011/index.html>

# Figure 1

Age-Adjusted Death Rates From Major Causes of Death Among Females by Race and Hispanic Origin, 2009



Source: Centers for Disease Control and Prevention, National Center for Health Statistics. (2013, March 14). *Health, United States, 2011: List of trend tables* [Data files]. Available at <http://www.cdc.gov/nchs/hus/contents2011.htm>

# BACKGROUND

Although cancer is found among females of all racial and ethnic groups, in general, white females are the most likely to have cancer. During 2006–2010, white females had the highest age-adjusted incidence of all forms of cancer combined (424 cases per 100,000 population), followed by black females (398 per 100,000), Hispanic females (323 per 100,000), AI/AN females (307 per 100,000), and Asian and Pacific Islander females (292 per 100,000).<sup>3</sup>

During the first decade of the 21st century (2000–2009), breast cancer incidence declined among white women, increased slightly among black women and among Asian and Pacific Islander women, and remained stable among AI/AN women and Hispanic women.<sup>4</sup> During the second half of this decade (2005–2009), breast cancer was the most common cancer among women of most racial and ethnic groups, although breast cancer incidence remained stable among women of all racial and ethnic groups during this 5-year period. The second most frequently diagnosed cancers among women were lung cancer and colorectal cancer.<sup>4</sup>

Cancer is among the 10 leading causes of death for females of all racial and ethnic groups combined. During 2009, it was the leading cause of death for AI/AN, Asian and Pacific Islander, and Hispanic females and was the second leading cause of death for white females and black females.<sup>2</sup> Although cancer was the second leading cause of death for black females, they were the group most likely to die from cancer. During 2006–2010, black females had the highest age-adjusted death rate from all forms of cancer combined (171 deaths per 100,000 population), followed by white females (150 deaths per 100,000), AI/AN females (139 deaths per 100,000), Hispanic females (101 deaths per 100,000), and Asian and Pacific Islander females (92 deaths per 100,000).<sup>3</sup>

The reasons for racial and ethnic differences in cancer risk, incidence, and mortality are not well understood, although the underlying causes are believed to include a complex combination of dietary, lifestyle, environmental, occupational, and genetic factors. Higher mortality rates among some populations are due in part to poverty, which may (1) increase the risk of developing certain cancers and (2) limit access to and use of preventive measures and screening. Poor health among people in poverty also may limit treatment options and decrease cancer survival rates.<sup>5</sup>

# INCIDENCE AND MORTALITY

## Incidence

During 2001–2010, the age-adjusted incidence of breast cancer among white females and Hispanic females declined significantly. However, the incidence of breast cancer did not change significantly among black, Asian and Pacific Islander, and AI/AN females during this same period.<sup>3</sup> Despite the national decline in breast cancer incidence among white women during this decade, this same population had the highest age-adjusted incidence of breast cancer (127 per 100,000) between 2006 and 2010, followed closely by black females (121 per 100,000). Asian and Pacific Islander females (92 per 100,000) had similar rates as Hispanic females (91 per 100,000), and AI/AN females had the lowest incidence (77 per 100,000).<sup>3</sup>

Breast cancer was the most frequently diagnosed form of cancer among females of the major racial and ethnic groups in Hawaii during 2000–2005. About a quarter of Native Hawaiian (35 percent), Japanese (35 percent), white (31 percent), Chinese (30 percent), and Filipina (29 percent) female cancer patients had breast cancer.<sup>6</sup> Among women in Hawaii, age-adjusted breast cancer incidence was 158 per 100,000 Native Hawaiian women, 140 per 100,000 Japanese women, 128 per 100,000 white women, 99 per 100,000 Chinese women, and 97 per 100,000 Filipinas.<sup>7</sup> Among Samoan women, breast cancer is also the most common type of cancer diagnosed, although lung cancer is the most deadly cancer.<sup>8</sup>

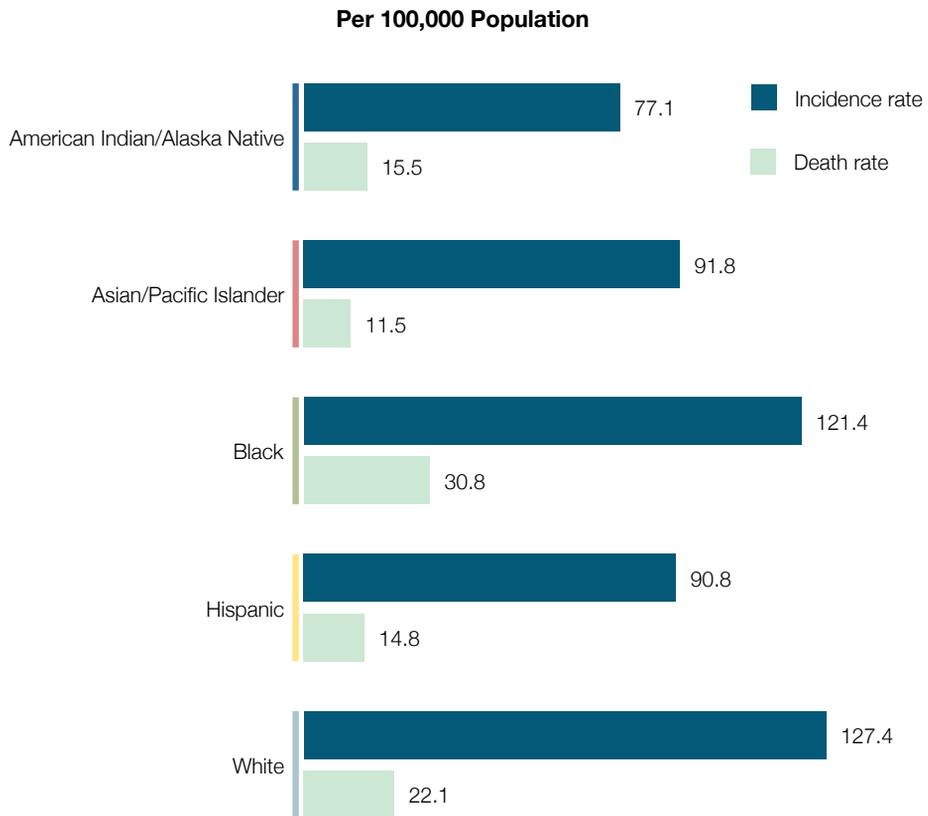
## Mortality

When compared with incidence rates, death rates showed a somewhat different pattern during the decade 2001–2010. Although breast cancer remained a leading cause of cancer deaths among females, age-adjusted death rates declined significantly among the major groups (white, Hispanic, black, Asian and Pacific Islander, and AI/AN) during this period.<sup>3</sup>

The age-adjusted death rate for breast cancer between 2006 and 2010 was highest among black females (approximately 31 per 100,000), as shown in Figure 2. Death rates for other groups were notably smaller—such as white females (22 per 100,000), Hispanic females (15 per 100,000), AI/AN females (13 per 100,000), and Asian and

## Figure 2

Age-Adjusted Incidence and Death Rates for Breast Cancer Among Females by Race/Ethnicity, 2006–2010



Source: Howlader, N., Noone, A. M., Krapcho, M., Garshell, J., Neyman, N., Altekruse, S. F., et al. (2013, April). *SEER cancer statistics review, 1975–2010*, based on November 2012 SEER (Surveillance, Epidemiology, and End Results Program) data submission, Tables 1.26 and 1.29. Bethesda, MD: National Cancer Institute. Data from custom reports generated November 15, 2013, via [http://seer.cancer.gov/csr/1975\\_2010](http://seer.cancer.gov/csr/1975_2010)

Pacific Islander females (12 per 100,000).<sup>3</sup> During 2010, the age-adjusted death rate for breast cancer was highest among non-Hispanic black females (31 per 100,000), followed by non-Hispanic white females (22 per 100,000), Hispanic females (14 per 100,000), non-Hispanic AI/AN females (12 per 100,000), and non-Hispanic Asian and Pacific Islander females (12 per 100,000).<sup>9</sup>

Significantly fewer black women than white women survive 5 years after a breast cancer diagnosis. The 5-year relative survival rate from breast cancer<sup>1</sup> during 2003–2009 was 90 percent for white females and 79 percent for black females.<sup>3</sup> Among Hispanic females, breast cancer diagnosis is more likely to occur at later stages; as a result, Latinas are more likely to have larger tumors and lower 5-year survival rates at the time of diagnosis than are non-Hispanic white women.<sup>10</sup>

## BREAST CANCER SCREENING

Breast cancer is commonly diagnosed as a result of mammography, clinical breast examination, and breast self-examination. Mammography—one of the most common diagnostic tools for breast cancer—is the creation of an x-ray image of the breast (known as a mammogram) that can be used to detect irregularities in breast tissue.<sup>2</sup> The U.S. Preventive Services Task Force recommends mammography screening, the screening test for breast cancer, every 2 years for women ages 50 to 74, and the American Cancer Society recommends annual screening starting at age 40.<sup>2</sup> Women should talk with their doctors about their personal risk factors for breast cancer, such as family history, before deciding when and how frequently they should get mammograms.<sup>11</sup>

The National Breast and Cervical Cancer Early Detection Program (NBCCEDP) provides low-income, uninsured, and underserved women access to timely breast and cervical cancer screening and diagnostic services. During 2011, the program used mammography to screen 333,302 women for breast cancer and diagnosed

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<sup>1</sup> The relative survival rate estimates the effect of cancer by measuring the survival of cancer patients in comparison to the general population. This survival rate is based on data from patient follow-up through 2010 for 18 SEER (Surveillance, Epidemiology, and End Results Program) geographic areas. Data from custom reports were generated via [http://seer.cancer.gov/csr/1975\\_2010](http://seer.cancer.gov/csr/1975_2010)

5,655 cases.<sup>12</sup> Among underserved women who received mammograms through the NBCCEDP during 2006–2011, 47 percent were white, 24 percent were Hispanic, 18 percent were black, 5 percent were Asian or Pacific Islander, 5 percent were AI/AN, and 0.7 percent were multiracial women.<sup>13</sup> The NBCCEDP guidelines aim for all women to receive a diagnosis of breast cancer, if appropriate, within 60 days of having an abnormal mammogram.<sup>14</sup>

Despite such programs as the NBCCEDP, women of color often do not avail themselves of preventive screening for breast cancer. For example, one study of Samoan, Tongan, Chamorro, Marshallese, and other Pacific Islander women living in Southern California between 2006 and 2008 found that 30 percent of these women never had a mammogram, 40 percent never had a clinical breast examination, and 50 percent did not know how to perform breast self-examination.<sup>15</sup>

For all women, having health insurance, a usual source of health care, and a high school education are associated with higher screening rates. For example, among Hispanic women in California during 2007, those who reported few physician visits (one to two visits within the past year) and no physician recommendation for mammograms were less likely to report ever having received screening mammography.<sup>10</sup> The likelihood of getting a mammogram also declines with age. Among Hispanic women living in California during 2007, women ages 40 to 49, 50 to 59, and 60 to 69 were more likely to report mammography screening within the past 2 years than were women age 70 and older.<sup>10</sup>

The failure to undergo mammography screening is of particular concern among Asian women—especially among Chinese, Japanese, and Filipina women—because of their increase in breast cancer rates over time after migrating to the United States. With immigration, breast cancer rates among Asian women have increased to mirror the higher overall rates of women in the United States.<sup>16, 17</sup> Breast cancer rates among Asian women living in their native countries are between 25 percent and 50 percent of the rates among Asian women living in the United States.

One study that compared breast cancer incidence among Japanese women who migrated to Los Angeles, San Francisco, and Hawaii with breast cancer incidence among Japanese women who remained in Japan revealed that incidence rates among migrants more than doubled (63 per 100,000 in Los Angeles, 68 per 100,000 in San

Francisco, and 73 per 100,000 in Hawaii) the rates of Japanese women living in Japan (between 24 and 31 per 100,000). Another study showed that third-generation Asian women in the United States have rates of breast cancer similar to or greater than the breast cancer rates among white women in the United States.<sup>18</sup>

## FACTORS INFLUENCING BREAST CANCER OUTCOMES

### African Americans

Black women receive mammography screening at about the same frequency or higher than do white women and women of other racial and ethnic groups. In particular, during 2010, African-American women were more likely than Asian, Hispanic, and white women—but less likely than AI/AN women—to report receiving recent mammography screening.<sup>2</sup> African-American women of different ages, however, vary in the likelihood of preventive screening. For example, during 2010, nearly 74 percent of non-Hispanic African-American women ages 50 to 64 reported having had a mammogram within the past 2 years, compared to only 61 percent of their counterparts age 65 and older.<sup>2</sup>

Despite their similar use of preventive screening, African-American women diagnosed with breast cancer often face a worse prognosis than do white women.<sup>19</sup> Black breast cancer patients tend to be diagnosed at a more advanced stage than either Hispanic or white breast cancer patients.<sup>14</sup> In addition, black women are more likely to be diagnosed with breast cancer based on the symptoms they present, rather than from abnormal mammography. The increased length of time before breast cancer diagnosis, however, does not fully explain the differences among racial and ethnic groups in the stage of cancer found at diagnosis. The interaction between tumor biology and socioeconomic status among African-American women is thought to explain their later stage of breast cancer at diagnosis.<sup>14</sup> A greater incidence of more aggressive tumors could result in a later stage at diagnosis and in the poorer survival rates that make breast cancer a disease with lower incidence but higher mortality among black women than among white women. Several factors have been identified as barriers to diagnosis, care, and treatment, including poor access to health care services; lack of education and

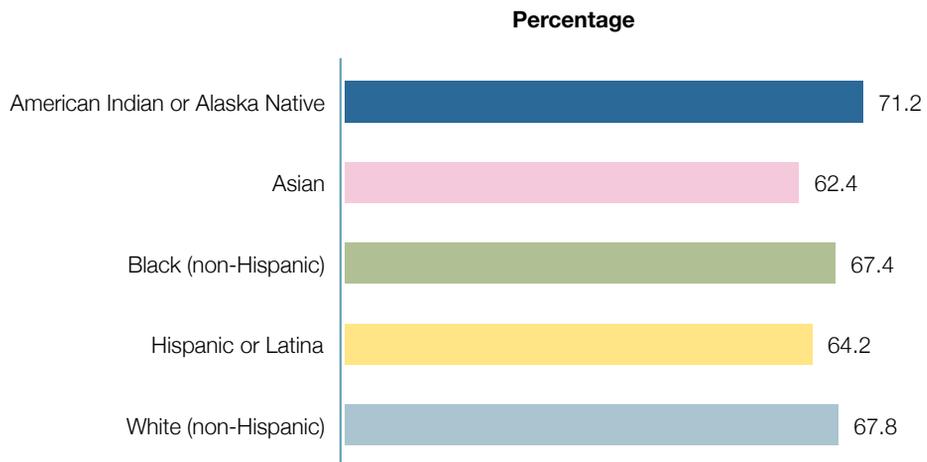
knowledge about cancer prevention and screening; mistrust of the health care system; fear and fatalism concerning treatment; and having to deal with other competing priorities, such as food, shelter, and safety.<sup>19</sup>

## American Indians and Alaska Natives

AI/AN women are less likely than white women and black women to be diagnosed with or to die from breast cancer. Although their incidence of breast cancer is less than that of Asian and Pacific Islander women and of Hispanic women, the death rates of AI/ANs from breast cancer are higher.<sup>3</sup> During 2010, 71 percent of the AI/AN female population age 40 and older reported having a mammogram within the past 2 years—more than the 67 percent among women of all racial and ethnic groups in this age cohort (see Figure 3).<sup>2</sup> Thus, a majority of age-eligible AI/AN women have used mammography to reduce the impact of breast cancer on their lives.

### Figure 3

Women Age 40 and Older Who Reported Having a Mammogram in the Past 2 Years by Race/Ethnicity, 2010



Source: National Center for Health Statistics. (2012). *Health, United States, 2011: With special feature on socioeconomic status and health* (DHHS Publication No 2012-1232), Table 90, pp. 295–297. Hyattsville, MD: Centers for Disease Control and Prevention. Retrieved November 4, 2013, from [http://www.cdc.gov/nchs/data/11.pdf](http://www.cdc.gov/nchs/data/hus/11.pdf)

To further increase mammography rates and thus reduce breast cancer incidence and death among this population, issues to be addressed include the chronic underfunding of the Indian Health Service, which provides service to AI/ANs who live on or near reservations, and the geographic barriers that many of these women face when seeking health care services.<sup>20, 21</sup> Screening facilities are often located far from communities, and the lack of culturally sensitive providers can discourage AI/AN females from returning for care after diagnosis.<sup>22, 23</sup>

## Asians and Pacific Islanders

In one comparison of mammography use among Asian and Pacific Islander women age 40 and older (based on data from the 2008 Behavioral Risk Factor Surveillance System), Pacific Islander women reported higher rates of screening mammography than did Asian women.<sup>17</sup> Factors related to this difference include having a higher income, having health insurance coverage, having access to a usual health care provider, getting a routine check-up within the past year, and being a non-smoker. Of these factors, the strongest predictor of having a recent mammogram was getting a routine check-up within the past year. Having a usual health care provider and getting a routine check-up are the most important factors related to this difference.<sup>17</sup>

Asian and Pacific Islander women experience a longer period of time between initial signs of breast cancer (a symptom such as a breast lump or an abnormal mammogram) and diagnosis of the disease than do white women. In addition, breast cancer is more likely to be diagnosed in Asian and Pacific Islander women from symptoms presented than from abnormal mammography.<sup>14</sup> Other factors associated with breast cancer screening—and, implicitly, in breast cancer outcomes—among Asian subgroups and Pacific Islander subgroups are noted below.

### **Asians**

Marked differences in adherence to mammography screening guidelines are reported among Asian subgroups. One study of Chinese-American women age 40 and older found that although 86 percent reported that they had once had a mammogram, only 48.5 percent reported having a mammogram within the past year.<sup>24</sup> The strongest factor associated with mammography screening was having an immediate family member who had been diagnosed with breast cancer, followed by having insurance that covered mammography and perceiving fewer barriers to obtaining a mammogram.

A study of Asian women in California found that Koreans were least likely (57 percent)—and Japanese most likely (79.5 percent)—to report breast cancer screening.<sup>25</sup> Nearly 72 percent of Chinese women also reported mammography screening. The strongest predictors of breast cancer screening were enabling factors, such as having private health insurance and a usual source of care. Asian women of all subgroups also were more likely to be screened if married and born in the United States. Another analysis of data for Asian women in California revealed additional characteristics of Asian women who reported not having a mammogram within the past 2 years<sup>26</sup>: Asian women who had never had a Pap smear to screen for cervical cancer reported not having a mammogram within the past 2 years. Women who did not use hormone therapy, did not have osteoporosis, and had not had a hysterectomy also reported not having had a mammogram within the past 2 years. These findings suggest that Asian women who do not follow mammography screening guidelines may not have good access to health care in general. Thus, improving access for Asian women to health care services in general, including screening tests such as mammography, could improve breast cancer outcomes for Asian women.

### ***Native Hawaiians***

Breast cancer is the most common form of cancer among Native Hawaiian females.<sup>27</sup> In addition, Native Hawaiian females have the highest breast cancer incidence of all women in Hawaii.<sup>7</sup> Because the perception of cancer in Hawaiian culture is bound up with beliefs about shame, guilt, and harmony (*lokahi*), outcomes for Native Hawaiian breast cancer patients also are shaped by these beliefs.<sup>28</sup>

For example, Native Hawaiian women without health insurance may hesitate to use free screening services because they want to avoid the shame of being negatively evaluated or discriminated against on the basis of their need for free services.<sup>29</sup> Guilt may result from a sense that their illness has caused disharmony and altered the chain of familial responsibilities.<sup>30</sup> This guilt may, in turn, result in a tendency to minimize the importance of such events as illnesses and to delay seeking health services.<sup>29</sup>

Some Native Hawaiian breast cancer patients may feel fatalistic and powerless to control the outcome of the disease and, therefore, refrain from fighting their disease as vigorously as women of other racial and ethnic groups.<sup>28</sup> Other Native Hawaiian women may enter medical treatment at late stages of the disease, only when self-care and traditional practices have not brought sufficient relief.<sup>28, 30</sup>

One way to address the cultural barriers related to delivering health care services to Native Hawaiian women would be to incorporate traditional cultural systems, such as the roles of *ho'omana* (religion and spirituality) and *haku* (a family liaison or primary support system), with the delivery of health care.<sup>29, 30</sup> Because Native Hawaiian culture is focused on affiliation and close personal bonds to solve or cope with problems, Native Hawaiians are uncomfortable with impersonal bureaucracies and the reliance on expert authority within these systems.<sup>30</sup> Having multidisciplinary teams of providers, including both Western-trained practitioners and traditional healers, could enable each type of provider to learn from the other and would establish a bridge to enhance the provision of care to Native Hawaiians.<sup>31</sup>

Respect for the importance of *'ohana* (family, or interdependence and mutual help and connectedness, from the same root as *ho'omana*) is critical to developing effective health care delivery systems for Native Hawaiians.<sup>29, 30</sup> Studies of interventions to promote breast cancer screening among Native Hawaiian women have found that using *kōkua* to deliver education and support through *'ohana* and friendship networks was well received and led to improvements in screening-related behaviors.<sup>29, 30</sup> The federally funded Native Hawaiian Health Care System includes examples of community-based health care centers that are culturally sensitive to the needs of Native Hawaiians, such as the Na Pu' uwai Native Hawaiian Health Care System on the island of Molokai.<sup>31</sup>

### **Other Pacific Islanders**

Recent estimates suggest that 35,000 non-Hawaiian Pacific Islanders live in Hawaii. More than half of them are Samoan and most of the other members of this population are from the Republic of the Marshall Islands and the Federated States of Micronesia.<sup>28</sup> Although American Samoa, the Republic of the Marshall Islands, and the Federated States of Micronesia have Breast and Cervical Cancer Control Programs (BCCCP) funded by the U.S. Centers for Disease Control and Prevention, the capacity and reach of these programs are limited. Non-Hawaiian Pacific Islanders living in Hawaii often underuse the available BCCCP services, likely because of lack of awareness about the importance of screening, lack of health insurance coverage (or lack of resources for copayments if they have health insurance), and lack of transportation to screening locations.<sup>28</sup> To lessen this lack of access, cancer patient navigation and peer-educator programs have been developed for both Native Hawaiians and Micronesians in Hawaii.

## Hispanics or Latinas

Hispanic women are less likely than white women to have breast cancer and to die from it. However, Latinas experience longer periods between the initial signs of breast cancer (i.e., a symptom such as a breast lump or an abnormal mammogram) and diagnosis.<sup>14</sup> This difference has not been fully explained but is believed to be related to whether Hispanic women have health insurance coverage and, thereby, access to health care services.

Disparities also exist in breast cancer screening rates across Latina subgroups. For example, one study found that Mexican and Central American women born in the United States and residing in California were less likely than their South American counterparts to report ever receiving a mammogram.<sup>10</sup> These Mexican women were less likely than both Central American and South American women to report having a recent mammogram. In general, recent research has found that both individual characteristics and socioeconomic factors influence these differences in the likelihood of breast cancer screening. The likelihood of mammography screening increases among Latinas who are between ages 50 and 69, have more years of education, have a personal history of cancer, are non-smokers, have health insurance, have visited a primary care provider within the past 12 months, and have had at least one other screening test.<sup>32</sup> Latinas were more likely to have had a clinical breast exam if they were younger, had a bachelor's degree, had a personal history of cancer, were more acculturated, had visited a primary care provider within the past 12 months, and had undergone other cancer screening tests.<sup>32</sup>

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