

Breast Cancer Disparities between African American and White Women in Wisconsin

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What Are Cancer Health Disparities?

According to the National Cancer Institute, cancer health disparities are “adverse differences in cancer incidence (new cases), cancer prevalence (all existing cases), morbidity (cancer-related health complications), cancer mortality (deaths), cancer survivorship, and burden of cancer or related health conditions that exist among specific population groups in the United States.”¹ These disparities arise from a complex interaction of population factors, such as race/ethnicity, socioeconomic status, health behaviors, health status, and health insurance coverage. For instance, an African American woman living in a low-income suburban area is more likely to experience structural barriers, such as lack of reliable transportation, resulting in limited health care system access. Limited access to health care services contributes to poor chronic disease management, thereby decreasing one’s likelihood of following breast cancer screening recommendations necessary for early breast cancer detection and prevention.

Convergence of Breast Cancer Incidence Rates

Among U.S. women, breast cancer is the most common invasive cancer, accounting for nearly one of every three cancers diagnosed. Breast cancer is also the second leading cause of cancer death among women, exceeded only by lung cancer. The American Cancer Society expects approximately 246,660 new cases of invasive female breast cancer and 40,450 deaths in 2016.²

A national study conducted by the American Cancer Society has revealed that racial disparities in breast cancer are likely to persist between African American and White women, based on the rising incidence rate trends among African American women and stable trends among White women.³ As indicated by the national statistics, breast cancer incidence rates increased at an average annual rate of 0.4% among African American women, whereas changes were not significant among White women from 2008 through 2012. African American women also had a 42.0% higher mortality rate than White women in 2012.³

This report addresses the recent changes in incidence trends in Wisconsin among African American women, in which age-adjusted rates increased more than previous years and are currently matching or exceeding the rates found among White women in Wisconsin. The focus of this report is to present Wisconsin data for female breast cancer incidence, mortality, and stage at diagnosis to determine how trends in Wisconsin between the two populations have changed, and to better understand the extent of racial disparities in Wisconsin (see technical notes).



Breast Cancer in Wisconsin

Since cancer registry data were published in 1995, African American women in Wisconsin have typically experienced lower breast cancer incidence rates. However, the rate among White women decreased by 7.3% from 1995 through 2013 (134.9 to 125.1 per 100,000), whereas the rate among African American women increased by 9.1% (from 114.8 to 125.3 per 100,000) during that same time.

In 3 of the 5 most recent years for which data is available (2009, 2012, and 2013), the increasing African American breast cancer incidence rates exceeded the White rates (Figure 1). Based on the merging incidence rate trend lines, African American and White women had similar chances of being diagnosed with breast cancer, and the rate ratio between the two populations was 1.0 in 2013. The data suggest that the invasive breast cancer incidence trends are projected to continue rising for African American women while declining for White women in Wisconsin—increasing the racial disparity in breast cancer.

Historically, breast cancer has been more deadly in African American women than in White women. The data indicate that African American women in Wisconsin experienced higher breast cancer mortality rates for most years (Figure 2). Based on the 1995-2013 mortality rate trend lines, the African American rate slightly increased from 29.7 to 29.9 per 100,000; White rate decreased by 35.7%, from 28.0 to 18.0 per 100,000. Because the mortality rate trend line for African American women remained consistently above the declining mortality rate trend line for White women, the rate ratio between the two populations changed from 1.06 to 1.66, widening the racial disparity in mortality.

The disparity in the stage at which breast cancer is diagnosed between African American and White women also steadily increased from 1995 to 2013 (Figure 3). Breast cancer continued to be more frequently diagnosed at a late stage (see technical notes) among African American women. In 2013, 46.9% of African American women with breast cancer were diagnosed at a late stage, compared with 32.0% of White women in Wisconsin.

Figure 1. Breast cancer incidence rate trends, African Americans and Whites, Wisconsin, 1995-2013

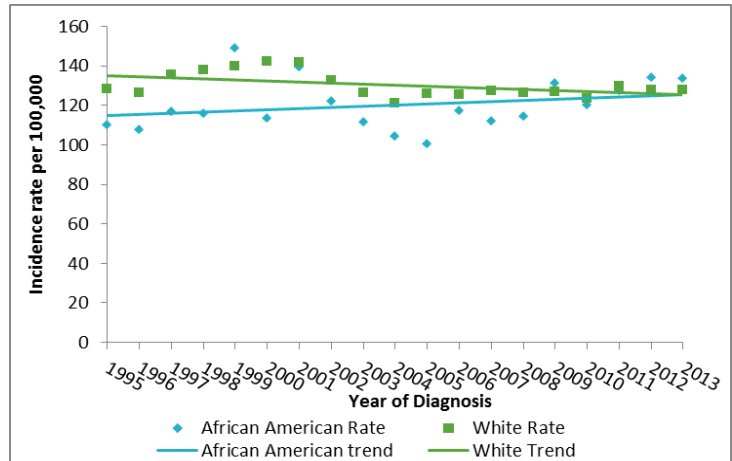


Figure 2. Breast cancer mortality rate trends, African Americans and Whites, Wisconsin, 1995-2013

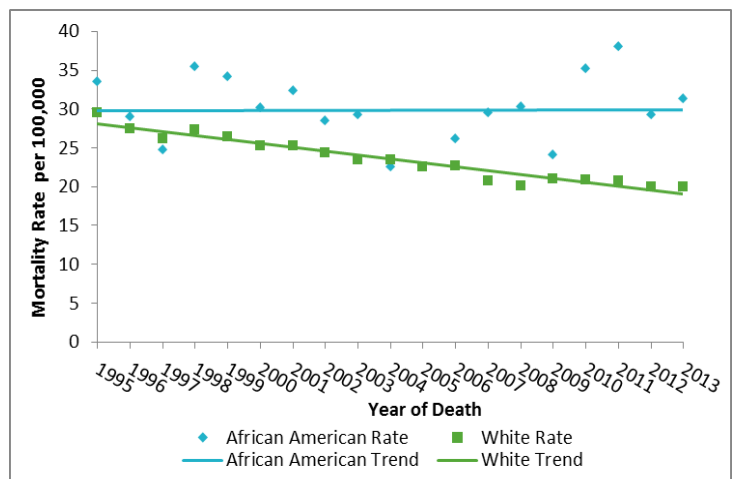
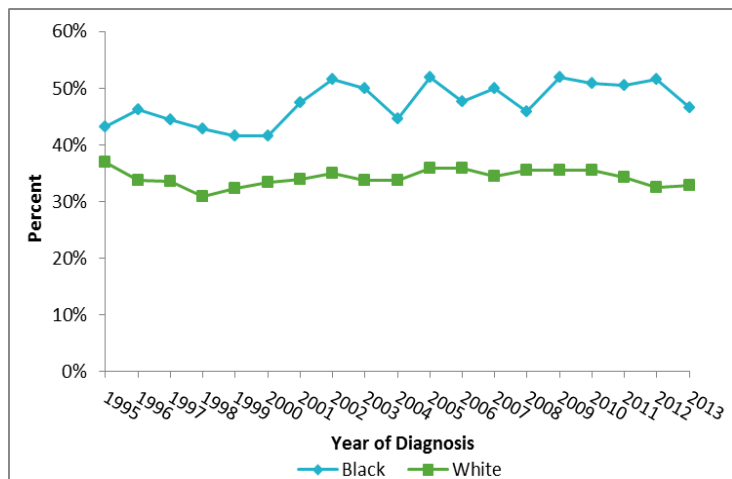


Figure 3. Trends in late stage at diagnosis in breast cancer, African Americans and Whites, Wisconsin, 1995-2013



Breast Cancer in Southeastern Wisconsin

Figure 4. Breast cancer incidence rate trends, African Americans and Whites, Southeastern Wisconsin, 2003-2013

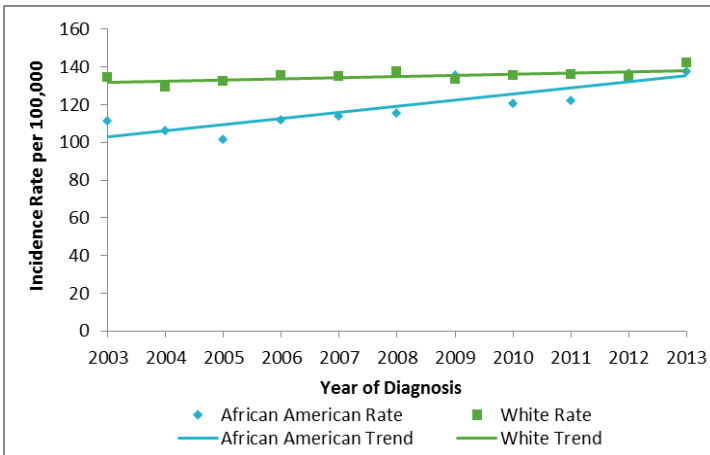


Figure 5. Breast cancer mortality rate trends, African Americans and Whites, Southeastern Wisconsin, 2003-2013

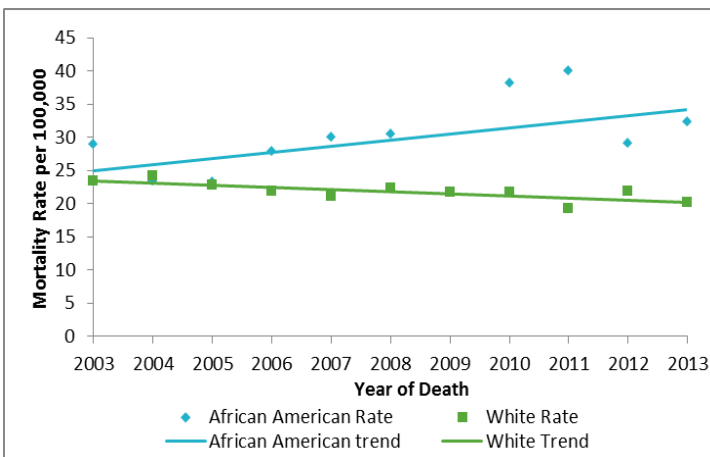
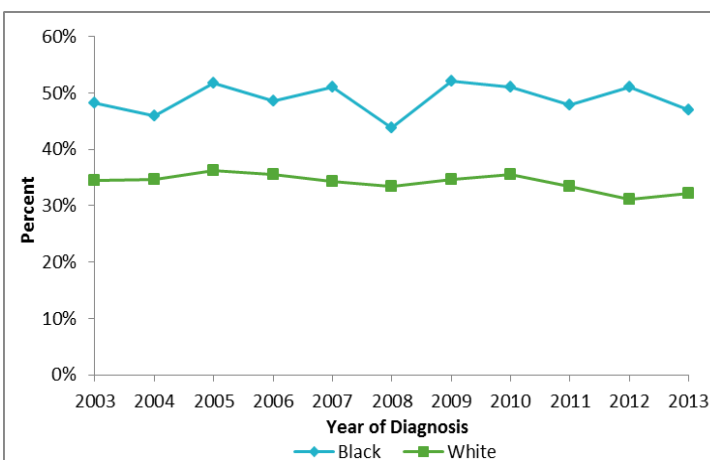


Figure 6. Trends in late stage at diagnosis in breast cancer, African Americans and Whites, Southeastern Wisconsin, 2003-2013



Southeastern Wisconsin, where Greater Milwaukee is located, is home to nearly 90% of Wisconsin's African American population.⁴ Milwaukee County has the highest African American population of any Wisconsin county⁴, and Racine County has the second highest. For Whites, Milwaukee County has the highest county-level population in the southeastern region.



The increased breast cancer incidence in African American women and racial disparity trends may be further examined through analysis of the high concentration of African Americans in southeastern Wisconsin. Because of this unique demographic distribution, it is important to look further at breast cancer to identify regional patterns for community-level prevention and intervention strategies.

During 2003 through 2013, the breast cancer incidence rate increased by 31.2%, from 103.1 to 135.3 per 100,000, for African American women, and 4.0%, from 132.0 to 138.2 per 100,000, for White women (Figure 4). The mortality rate among African American women increased by 36.6%, from 25.1 to 34.3 per 100,000, but the White mortality rate decreased by 14.0%, from 23.6 to 20.3 per 100,000 (Figure 5). The racial disparity in breast cancer mortality (rate ratio=1.70) was greater in the southeastern region, compared to the state-level racial disparity (rate ratio=1.66).

African American women have continued to be diagnosed with breast cancer at a later stage than White women in southeastern Wisconsin over an 11-year period. In 2013, 47.0% of African American women with breast cancer were diagnosed at a late stage, while only 32.2% of White women were diagnosed at a late stage (Figure 6). The late stage distribution of breast cancer cases between African American and White women in the region was not significantly different than the statewide distribution.

Furthermore, the two populations in Milwaukee County had similar five-year incidence rates from 2009 through 2013 (Table 1). However, African American women experienced a greater five-year breast cancer mortality rate than White women. For Racine County, African American women had a lower average incidence rate but a greater average mortality rate than White women. Although not statistically significant, African American women in Milwaukee County had a higher average incidence rate and mortality rate than in those residing in Racine County, whereas White women's average rate remained relatively the same.

Table 1. Breast cancer rate trends, African Americans and Whites, Southeastern Wisconsin, 2009-2013

	African American Incidence				White Incidence			
County	Rate ¹	Count	Lower CI	Upper CI	Rate ¹	Count	Lower CI	Upper CI
Milwaukee	133.0	759	123.4	143.2	134.7	2558	129.3	140.2
Racine	116.7	54	87.0	152.9	137.8	740	127.8	148.4

	African American Mortality				White Mortality			
County	Rate ¹	Count	Lower CI	Upper CI	Rate ¹	Count	Lower CI	Upper CI
Milwaukee	33.0	179	28.2	38.4	20.8	457	18.8	22.9
Racine	26.9	12	13.5	47.2	19.4	113	15.5	23.5

¹Rates are per 100,000 and age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130).

Why are Breast Cancer Incidence Rates Rising for African American Women?

The racial disparities in breast cancer mortality have become more pronounced in the recent years as the breast cancer incidence rates for African American women continue to rise, converging with or exceeding the White rates in Wisconsin and nationally. Particular areas to focus on include increasing knowledge about routine screening guidelines and different subtypes of breast cancer. Triple-negative breast cancer is an aggressive subtype of breast cancer that tests negative for estrogen receptors, progesterone receptors, and human epidermal growth factor receptor 2 (HER2). It does not respond to hormone treatment, but is typically responsive to chemotherapy. African American women and women younger than 50 years of age are far more likely to develop triple-negative breast cancer.⁵

Therefore, providing more public education about specific breast cancer subtypes can help women become more informed and make better choices about breast cancer screening. Another strategy is to raise awareness of the importance of detecting breast cancer early, and making free or no-cost breast cancer screening services available to resolve barriers to health care access, particularly among underinsured, uninsured, or low-income women.

Researchers spend a great deal of time and effort designing and testing interventions that can address the various drivers of disparities in different populations. These research findings can effectively inform the public and policy makers of the unique needs and challenges faced by certain communities. They can also help tailor cancer intervention strategies to better target and serve individuals who are more susceptible to disparities.

What Wisconsin Is Doing About Disparities in Cancer

The Wisconsin Department of Health Services participates in several national programs that support cancer screening, education, and outreach strategies, lifestyle intervention programs, and community-based cancer prevention activities.

Wisconsin Well Woman Program <https://www.dhs.wisconsin.gov/wwwp>

The Wisconsin Well Woman Program provides preventive health screening services to women with little or no health insurance coverage. The program pays for mammograms, Pap tests, and specified diagnostic procedures related to breast and cervical cancers. There are no premiums, deductibles, or co-payments for the Well Woman Program. The program is available in all 72 counties and 11 tribes in Wisconsin, and is part of the CDC-funded National Breast and Cervical Cancer Early Detection Program (NBCCEDP).

Wisconsin Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) Program

<http://www.cdc.gov/wisewoman/locations/wi.htm>

Wisconsin is one of 21 CDC-funded WISEWOMAN programs in 19 states and 2 tribal organizations. The WISEWOMAN Program provides cardiovascular screening to women who are participants in the CDC-funded NBCCEDP or Well Woman in Wisconsin. WISEWOMAN focuses on reducing heart disease and stroke risk factors by improving diet, increasing physical activity, offering tobacco cessation programs, and adopting other heart healthy behaviors. These behavioral changes can help decrease health disparities in chronic disease such as breast cancer.

Wisconsin Cancer Reporting System <https://www.dhs.wisconsin.gov/wcrs/index.htm>

By documenting new cancer cases within the state, the Wisconsin Cancer Reporting System (WCRS) identifies different populations that experience health disparities in cancer and aids in state cancer planning. Public health professionals use the data to identify and track cancer trends, strengthen cancer prevention and control activities, and prioritize the use of resources. WCRS is part of the National Program of Cancer Registries.

For more information about cancer among African Americans, breast cancer screening, and chronic disease prevention programs, please visit the webpages listed below:

- **African American Breast Cancer Alliance:** <http://aabcainc.org>
- **American Cancer Society: Facts and Figures for African Americans:** <http://www.cancer.org/research/cancerfactsstatistics/cancer-facts-figures-for-african-americans>
- **American Cancer Society: Breast Cancer Facts & Figures:** <http://www.cancer.org/research/cancerfactsstatistics/breast-cancer-facts-figures>
- **Centers for Disease Control and Prevention: Breast Cancer:** <http://www.cdc.gov/cancer/breast/>
- **Wisconsin Comprehensive Cancer Control Program:** <https://www.dhs.wisconsin.gov/cancer/index.htm>
- **Wisconsin Breast Cancer Coalition:** <http://www.wibreastcancer.org/>
- **Wisconsin Breast Cancer Task Force:** <https://wicancer.org/partnerships-2/breast-cancer-task-force/>

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Technical Notes

Data Sources—Incidence data and the staging data were obtained from the Wisconsin Cancer Reporting System (WCRS) for invasive breast cancer; in situ cases were not included. Mortality data were collected by the Wisconsin Vital Records Office and provided by the National Center for Health Statistics.

Age-Adjusted Rates—All incidence and mortality rates in this report were age-adjusted using the direct method. This method weights the age-specific rates for a given sex, race or geographic area by the age distribution of the standard population. The 2000 United States standard million population was used for all rates provided in this report. Rates were for invasive breast cancer and calculated in SEER*Stat software, version 8.2.

Trends and observed rates—The report applied the least squares regression to calculate the best fit straight line of the observed rates. In the figures of the report, the trend lines reflect the changing movements in the observed rates (colored dots) occurring over the reporting period (1995-2013 and 2003-2013), while smoothing the yearly fluctuations due to small population sizes. All single-year rates presented in the report were based on the fitted trend lines shown in figures 1, 2, 4, and 5.

Measuring racial disparity—The report used the rate ratio to measure relative disparity between African American and White women for incidence and mortality rates. For incidence and mortality, the rate ratios of African American rate to White rate in a given year were calculated using the estimated points of the smooth fitted trend lines. The report compared the rate ratio at the first and last year of the analytical period to measure change in relative disparity. All rate ratios presented in the reports were based on the fitted trend lines shown in figures 1, 2, 4, and 5.

Cancer Staging Definition—This report presents data for late stage of disease at diagnosis that includes regional and distant stages. There are four summary stages of disease at diagnosis: in situ stage is pre-invasive; local stage is confined to the organ of origin; regional stage has spread beyond the original organ site to adjacent areas; distant stage has spread to more remote areas in the body.

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