

**New Avon Foundation-Funded Study:
BLACK: WHITE DISPARITIES IN BREAST CANCER MORTALITY IN THE 50
LARGEST CITIES IN THE UNITED STATES, 2005-2014**

*Conducted by Sinai Urban Health Institute and Breast Cancer Research Foundation
Funded by the Avon Foundation for Women*

INTRODUCTION

- Breast cancer continues to be the second leading cause of cancer death among women in the United States (US), with an estimated 40,450 deaths expected to occur in 2016¹.
- While Black:White disparities in breast cancer mortality are well-documented, the direction and magnitude of these disparities have changed over time and vary by location.
- In order to further the understanding of these disparities and improve access to breast cancer prevention, screenings and care, the Avon Foundation for Women provided a grant to the Sinai Urban Health Institute to examine breast cancer deaths in the 50 most populous US cities. This research is a collaboration between the Sinai Urban Health Institute and the Breast Cancer Research Foundation.
- The research analysis was conducted by Bijou R. Hunt of the Sinai Urban Health Institute at Sinai Health System, and the study was co-authored with Marc S. Hurlbert, Ph.D. of the Breast Cancer Research Foundation, and former Executive Director of the Avon Foundation for Women.
- Fifty cities were examined, but the research is not able to provide estimates for cities lacking city-level population data or for cities in which there were fewer than 20 deaths over the study period.
- The research analysis presents race-specific breast cancer mortality rates and the corresponding rate ratios for the 43 most populous US cities through the most recent five-year interval: 2010-2014.
- This Avon-funded study is an update of previous research on how the breast cancer mortality rates of White and Black women changed between 1990-2009, and how the rates and disparities differed across 41 of the most populated US cities during this period.
- Local-level data like these are not readily available, but can be useful for public health officials seeking to understand trends and improve health outcomes in their local jurisdictions.

¹ American Cancer Society. Cancer Facts & Figures 2016. In. Atlanta: American Cancer Society; 2016.

KEY FINDINGS

Breast Cancer Mortality Rates among Black and White Women in the US, 2010-2014

THE BREAST CANCER MORTALITY RATE FOR BLACK WOMEN IN THE US WAS 30.7 DEATHS PER 100,000 WOMEN.

THE BREAST CANCER MORTALITY RATE FOR WHITE WOMEN IN THE US WAS 21.4 DEATHS PER 100,000 WOMEN.

- Black women were 43% more likely to die from breast cancer than their White counterparts.
- This disparity resulted in 3,854 excess Black deaths annually.

Racial Disparities in Breast Cancer Mortality

THE BREAST CANCER MORTALITY RATE WAS HIGHER FOR BLACK WOMEN THAN WHITE WOMEN IN 42 OF THE 43 LARGEST US CITIES.

- The breast cancer mortality rate for Black women was statistically significantly higher than that for White women in 24 cities and the US.

Breast cancer mortality rates of and disparities between non-Hispanic Black (Black) and non-Hispanic White (White) females for cities with a statistically significant disparity favoring Whites (2010-2014).

City, State (largest to smallest rate ratio)	Black rate	White rate	Rate ratio
U.S.	30.7	21.4	1.43
Atlanta, GA	44.0	20.2	2.17
Austin, TX	39.0	20.1	1.94
Wichita, KS	35.2	19.5	1.80
San Antonio, TX	40.9	22.8	1.79
Kansas City, MO	38.9	22.0	1.77
Dallas, TX	34.3	19.6	1.75
Memphis, TN	37.5	22.2	1.69
Los Angeles, CA	40.3	24.1	1.67
Oklahoma City, OK	34.2	21.8	1.56
Chicago, IL	34.6	22.6	1.53
Houston, TX	40.2	26.8	1.50
Raleigh, NC	31.7	21.1	1.50
Fort Worth, TX	33.0	22.1	1.49
San Francisco, CA	29.5	20.0	1.47
Washington, DC	34.4	24.0	1.43
Denver, CO	31.1	21.8	1.43
Omaha, NE	35.4	24.9	1.42

Indianapolis, IN	25.6	18.4	1.39
Milwaukee, WI	35.2	25.8	1.36
Charlotte, NC	28.8	21.6	1.33
Jacksonville, FL	29.6	22.4	1.32
New York, NY	28.2	22.3	1.27
Columbus, OH	28.4	22.6	1.26
Philadelphia, PA	32.2	26.1	1.24

- The breast cancer mortality rate for Black women was trending higher than that for White women in 17 cities.

Breast cancer mortality rates of and disparities between non-Hispanic Black (Black) and non-Hispanic White (White) females for cities where Black rates are trending higher than White rates (2010-2014).

City, State (largest to smallest rate ratio)	Black rate	White rate	Rate ratio
San Jose, CA	33.8	24.1	1.40
Portland, OR	35.4	26.5	1.33
Arlington, TX	28.1	21.4	1.32
Tulsa, OK	32.7	25.2	1.30
San Diego, CA	29.1	22.5	1.29
Detroit, MI	31.0	24.2	1.28
Virginia Beach, VA	30.8	24.2	1.27
Long Beach, CA	36.0	28.9	1.24
Baltimore, MD	31.7	26.5	1.19
Cleveland, OH	31.0	26.2	1.18
Phoenix, AZ	22.3	19.1	1.17
Oakland, CA	28.0	25.2	1.11
Minneapolis, MN	20.4	18.5	1.11
Las Vegas, NV	49.2	45.0	1.09
Fresno, CA	33.4	31.8	1.05
Seattle, WA	26.2	25.1	1.05
Boston, MA	21.1	20.9	1.01

NOT ONLY ARE THE MORTALITY RATES HIGHER FOR BLACK WOMEN THAN WHITE WOMEN, BUT THE BLACK:WHITE DISPARITY INCREASED ACROSS THE US AS A WHOLE.

- The Black:White disparity in breast cancer mortality increased statistically significantly in the US between 2005-2009 (B:W percent difference =39.7) and 2010-2014 (B:W percent difference =43.1).

ATLANTA, GA EXPERIENCED THE LARGEST INCREASE IN THE BLACK:WHITE DISPARITY.

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- Between 2005-2009 and 2010-2014, the Black:White disparity increased statistically significantly in Atlanta, GA (from 4.1 to 117.4) and San Antonio, TX (from 24.4 to 79.3).

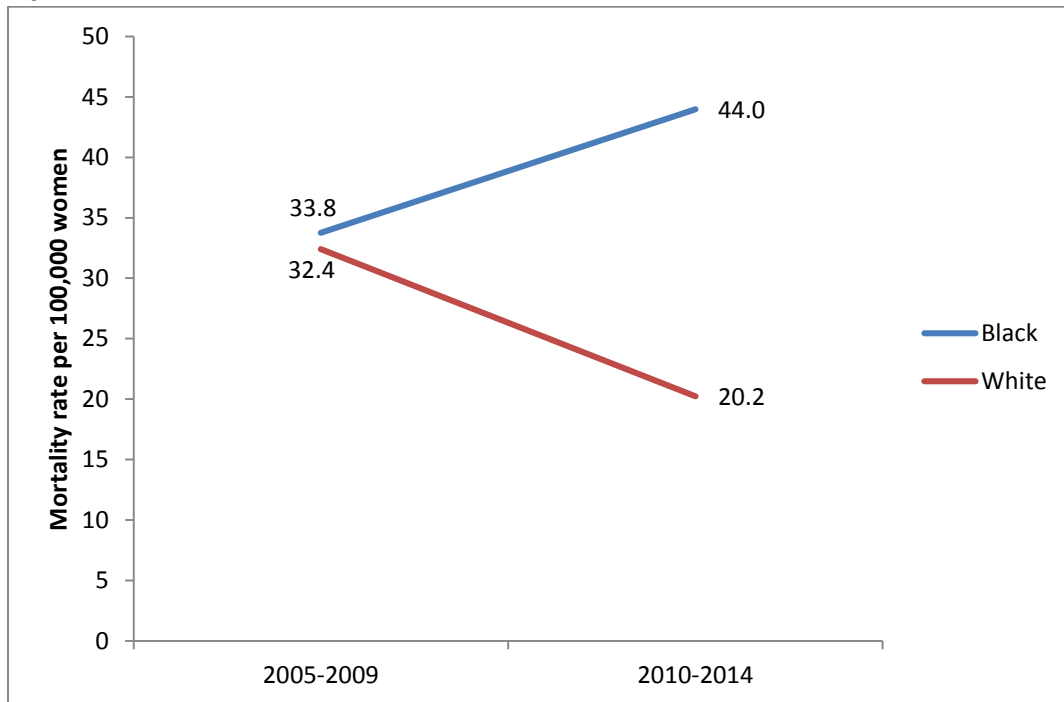
HOWEVER, THE STUDY ALSO FOUND THAT THERE WAS A DECREASE IN THE BLACK:WHITE DISPARITY IN THREE CITIES – MEMPHIS, TN, PHILADELPHIA, PA AND BOSTON, MA.

- Between 2005-2009 and 2010-2014, the Black:White disparity decreased statistically significantly in Memphis, TN (from 111.0 to 68.9); Philadelphia, PA (from 43.1 to 23.5); and Boston, MA (from 48.9 to 0.7).

IN 23 OF THE 43 CITIES, WHITE WOMEN EXPERIENCED A LARGER PERCENT DECREASE IN BREAST CANCER MORTALITY THAN THEIR BLACK COUNTERPARTS.

- Atlanta was one of the cities with the largest gap (68 percentage points) between Blacks, for whom mortality rates increased by 30%, and Whites, for whom mortality rates decreased by 38%.

Figure title: Five-year average age-adjusted breast cancer mortality rates for non-Hispanic Black and non-Hispanic White women, Atlanta, GA, 2005-2009 and 2010-2014.

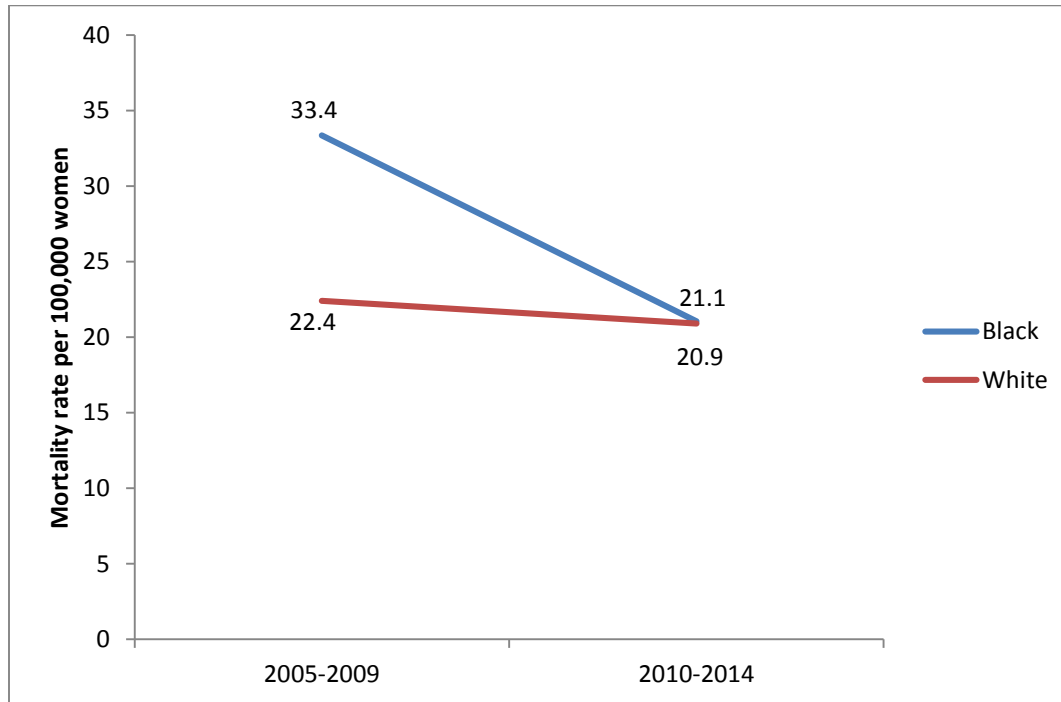


IN 19 CITIES, MORTALITY RATES FOR BLACK WOMEN DECREASED MORE THAN THE MORTALITY RATES FOR WHITE WOMEN.

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- Boston was one of the cities with the largest gap in improvement (30 percentage points) between Blacks, for whom mortality rates decreased by 37%, and Whites, for whom mortality rates decreased by 7%.

Figure title: Five-year average age-adjusted breast cancer mortality rates for non-Hispanic Black and non-Hispanic White women, Boston, MA, 2005-2009 and 2010-2014.



CONCLUSION

IN THE US, BLACK WOMEN CONTINUE TO DIE FROM BREAST CANCER AT A HIGHER RATE THAN THEIR WHITE COUNTERPARTS.

- City-level breast cancer mortality data for Black and White women through 2014 reveals that in 24 of the 43 largest US cities, Black women continue to die from breast cancer at a statistically significantly higher rate than their White counterparts.

THIS STUDY HIGHLIGHTS THE NEED FOR PUBLIC HEALTH OFFICIALS, ESPECIALLY IN LARGE CITIES, TO INCREASE ACCESS TO BREAST CANCER SCREENING AND TREATMENT SERVICES FOR AFRICAN AMERICAN WOMEN.

- It was important to note that some individual cities have shown a decreasing disparity. However, the Black:White disparity in breast cancer mortality still exists and needs to be addressed as a public health problem.

- More city-level data on breast cancer mortality rates and the racial disparities are needed and can help inform city public health officials to provide services to high-risk and underserved populations.
- Public health officials in Memphis took action following the 2012 report of the Black:White disparity in breast cancer mortality, which provided data on their city. They took several steps including better tracking, multi-institution collaborations and a city-wide consortium to tackle the problem. While it is not possible to say if these actions had a direct cause-and-effect, Memphis is one of three cities in the current study to report a decreasing disparity.
- Similarly earlier analyses of this type sparked action in Chicago where the Metropolitan Chicago Breast Cancer Task Force formed and helped to pass the Illinois Breast Cancer Disparities Act, create the Breast Cancer Quality Consortium to improve mammography quality, and expand the Illinois Breast and Cervical Cancer Program to cover all uninsured women in Illinois for screening, diagnosis, and treatment.

ALL WOMEN, ESPECIALLY AFRICAN AMERICAN WOMEN, SHOULD DEMAND ACCESS TO HIGH-QUALITY SCREENING MAMMOGRAPHY AND ACCESS TO TIMELY, HIGH-QUALITY CANCER TREATMENT.

METHODOLOGY

- The 50 largest cities in the US were the units of analysis.
- Deaths where the cause was malignant neoplasm of the breast (breast cancer) for women were included in this analysis.
- Numerator data for 2010-2014 were abstracted from national death files to calculate the five-year average annual rate.
- Population-based denominators for non-Hispanic White and non-Hispanic Black populations were obtained from the U.S. Census Bureau for 2010-2014.
- For each of the two sources of data – the census and death files – non-Hispanic Black and non-Hispanic White classifications were obtained by cross-tabulating two variables: Hispanic ethnicity and racial identity.
- Mortality rates are measured in number of deaths per 100,000 women.
- The disparity in breast cancer mortality was measured by calculating the Black: White rate ratio (RR) for each city at each time period (2005-2009 and 2010-2014).
- An RR less than 1.00 indicates that the White rate is higher than the Black rate. An RR greater than 1.00 indicates that the Black rate is higher than the White rate.

LIMITATIONS

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- Seven cities were excluded from this analysis. Population data were not available at the city-level for two cities (Louisville/Jefferson County, KY and Nashville/Davidson, TN).
- An additional seven cities were excluded because both time points had fewer than 20 Black deaths due to small Black population size.
- This left 43 cities for the analysis. These deletions are in accordance with research that mortality rates based on less than 20 deaths can be unreliable.