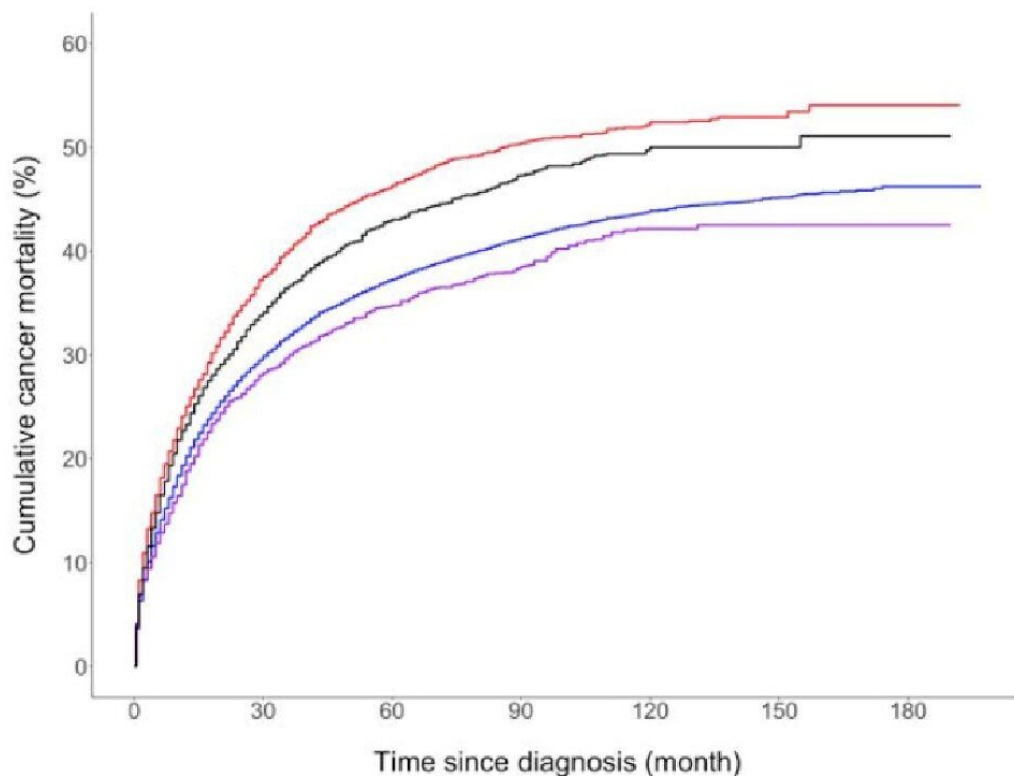


# Black, Hispanic survivors of breast cancer have higher death rates from second cancers

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This graphic shows the percent of cancer deaths from a second cancer among breast cancer survivors over time. Each color line represents a different race/ethnicity, with purple representing Asians, black representing Hispanics, red representing non-Hispanic Blacks and blue representing non-Hispanic whites.

Credit: Kala Visvanathan

Hispanic and non-Hispanic Black female survivors of breast cancer experience higher death rates after being diagnosed with a second primary cancer than members of other ethnic and racial groups, according to recent research from investigators at the Johns Hopkins Kimmel Cancer Center.

In a study of nearly 40,000 adult survivors of breast cancer, the risk of death from a second cancer was 12% higher among non-Hispanic Black survivors and 8% higher among Hispanic survivors compared with non-Hispanic white survivors. Survivors in racial and ethnic minorities were diagnosed with second cancers up to six years younger than non-Hispanic white survivors, and within a shorter time from their first cancer.

Additionally, non-Hispanic Black survivors had a 44% higher risk of cardiovascular disease-related death after a second cancer diagnosis than non-Hispanic white survivors. These results were published in the *Journal of the National Cancer Institute*.

Nearly half of cancer survivors live for more than 10 years, and approximately one in five people diagnosed with cancer has a prior cancer history, according to the National Cancer Institute.

Therefore, says senior study author Kala Visvanathan, M.D., M.H.S., director of the Cancer Genetics and Prevention Service at the Kimmel Cancer Center and a member of the Women's Malignancy Program at Johns Hopkins, it's important to determine [risk factors](#) associated with second cancers so they can best be prevented, or diagnosed and managed as early as possible.

There could be many contributing factors to the poor survival observed after a second cancer, including diagnosis of aggressive tumors, cumulative treatment and type of treatment received, lifestyle factors and social determinants of health, says Visvanathan, who is also director of the cancer epidemiology track at the Johns Hopkins Bloomberg School of Public Health.

"We believe this to be one of the first studies to comprehensively examine the racial and ethnic disparities in survival outcomes after a second cancer," Visvanathan says.

"The findings are extremely concerning given the increasing prevalence of second cancer at a young age among women diagnosed with breast cancers. A multipronged approach is needed to identify biological factors, and patient-, provider- and systems-level contributors to survival outcomes among breast cancer survivors."

Zhengyi Deng, Ph.D., a former doctoral student at the Bloomberg School of Public Health, was the study's lead author. The research team evaluated information from 39,029 adult female survivors of breast cancer who developed a second primary cancer in 2000–2014, as recorded in the national Surveillance, Epidemiology and End Results (SEER) 18 Program database.

The database, maintained by the National Cancer Institute, covers 18 U.S. cancer registries and represents nearly 28% of the population. Participants were followed until Dec. 31, 2016, or at least two years after the second cancer diagnosis.

Participants' ethnicity was categorized as Hispanic, non-Hispanic Asian, non-Hispanic Black and non-Hispanic white. Non-Hispanic American Indian or Alaska Native, and Pacific Islander, were excluded from study due to a small number of records. Investigators looked at several

variables, including five-year survival rate; demographics including age and year of diagnosis, marital and insurance status, and initial treatments; median household income and education level; and cause of death.

Overall, there were 39,029 second cancers and 15,117 deaths after second cancers. The strongest associations with cancer deaths were among non-Hispanic Black survivors with a second breast or uterine cancer and among Hispanic survivors with a second [breast](#) cancer. Secondary cancers occurred at an earlier age in Hispanic (mean age: 62.2), non-Hispanic Asian (mean age: 63.4) and non-Hispanic Black (mean age: 63.5) survivors compared with non-Hispanic white survivors (mean age: 68.8).

Breast cancer was the most common second cancer across all racial and [ethnic groups](#), followed by lung, colorectal and uterine cancer. Second cancers in non-Hispanic Black women were less likely to be diagnosed at a local stage compared with other groups. And, Hispanic and non-Hispanic Black survivors were more likely than members of other groups to need chemotherapy for their first and second cancer.

Looking at cancer mortality, non-Hispanic Black survivors had the highest cumulative mortality during the entire follow-up, followed by Hispanic, non-Hispanic white and non-Hispanic Asian survivors. Later stage at presentation and more aggressive tumor characteristics contributed to increased cancer mortality among Hispanic and non-Hispanic Black survivors after second cancers.

A prior study from the team, the results of which were published last summer in [NPJ Breast Cancer](#), found that cancer survivors with a second cancer had a 27% increased risk of [cancer](#) death and 18% increased risk of death from any cause compared to survivors with primary cancers. The research team is continuing studies of patients with second cancers.

**More information:** Zhengyi Deng et al, Racial and ethnic disparities in mortality among breast cancer survivors after a second malignancy, *JNCI: Journal of the National Cancer Institute* (2022). [DOI: 10.1093/jnci/djac220](https://doi.org/10.1093/jnci/djac220)

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