

## Does Use of Screening Mammography Explain Racial and Ethnic Differences in Death from Breast Cancer?

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The full report is titled "Does Utilization of Screening Mammography Explain Racial and Ethnic Differences in Breast Cancer?" It is in the 18 April 2006 issue of *Annals of Internal Medicine* (volume 144, pages 541-553). The authors are R. Smith-Bindman, D.L. Miglioretti, N. Lurie, L. Abraham, R. Ballard Barbash, J. Strzelczyk, M. Dignan, W.E. Barlow, C.M. Beasley, and K. Kerlikowske.

### What is the problem and what is known about it so far?

Death rates from breast cancer in the United States have been falling over the past 10 to 15 years, probably because of earlier diagnosis by mammography and the development of more effective treatments. Even so, not all racial and ethnic groups have benefited equally from these advances. Non-Hispanic white women have benefited more than African-American, Hispanic, and Asian women. There are several reasons why these racial and ethnic differences in death rates may persist, including differences between groups in the growth characteristics of tumors, differences in the use of mammography, and differences in insurance coverage or the ability to pay for treatment. Doctors know that the most accurate predictor of how long a patient with breast cancer will live is the stage of the tumor (how far it has progressed) at the time of diagnosis.

### Why did the researchers do this particular study?

To find out whether racial and ethnic differences in breast cancer survival could be explained by differences in the time interval between mammography. They also wanted to compare the stage of progression of the tumor at the time of diagnosis among women of all racial groups who had undergone mammography at equal time intervals.

### Who was studied?

1,010,515 (789,997 non-Hispanic white, 62,408 African-American, 90,642 Hispanic, 49,867 Asian, and 17,601 Native American) women, 40 years of age or older, who had undergone mammography at least 1 time between 1996 and 2002 at a location that reported to 1 of 7 possible mammography registries.

### How was the study done?

The researchers linked information from the mammography registries to information from tumor registries. Women who were identified as having breast cancer were then evaluated according to their race and ethnicity as well as the time interval between the most recent mammography and the previous mammography. The researchers then evaluated tumor characteristics according to size, tumor tissue aggressiveness (tumor histologic grade), and whether the tumor had spread to the lymph nodes at the time of diagnosis.

### What did the researchers find?

Breast cancer was diagnosed in 17,558 women. Compared with white women, African-American women with breast cancer were more likely to have large, aggressive tumors (higher tumor histologic grade) that had spread to the lymph nodes; Asian and Native American women were less likely to have those characteristics. The differences between white and African-American women disappeared when the researchers evaluated women with the same time interval between mammography. Tumor histologic grade at the time of diagnosis was not affected by screening history.

### What were the limitations of the study?

Women who had no mammography performed were not included in the study. The study did not evaluate repeated use of mammography over time.

### What are the implications of the study?

Racial differences in mammography use help explain some but not all differences in the incidence of advanced-stage cancer and in death rates from the disease.

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