

# Lifelines



from the National Cancer Institute

## Explaining Breast Cancer Risk by the Numbers

*By the National Cancer Institute*

Sometimes it can be difficult to understand people talking about cancer, especially doctors, scientists, and reporters. Part of the reason is because they use so many numbers and statistics without explaining exactly what they mean. A famous philosopher once said that “Mathematics is the language of science.” But most of us don’t speak that language very well. Here are some ways to think about the numbers that professionals may use when talking about cancer.

For example, many of the numbers you will see or hear about African-American women’s risk of breast cancer are a statistic known as **incidence**. This is a general number that tells you what is happening out in the world right now. It looks at a group of living people—a group that is large and general enough to be considered “average”— and tells you how many of them got the disease you are talking about.

Many statistics use **percentages (%)**, which means a fractional piece of 100—100 percent of something always means *all* of it. So if you went to lunch with 9 friends, and only 3 of you had wine, that would be 30 percent. The incidence of breast cancer in African American women in a recent year was 126 in 100,000, which means that far fewer than 1 percent of all African American women got breast cancer in that year. For 2011, this translates to an estimated 26,840 new cases in the United States.

### **What is the chance that you will get breast cancer?**

Now, what about your own **personal risk**? If breast cancer runs in your family, your risk will be higher than that of someone who is your same age, if that woman doesn’t have close relatives with the disease. This is because family members share important genes and they also tend to live in similar environments. Other personal risk factors, such as your weight, alcohol use, and use of hormone therapy for menopause, can also affect your risk.

Researchers looking back over years of data found that 1 in 10 African American women will develop some form of breast cancer in their lifetime. Thus, if you forget about the other risk factors mentioned in the last paragraph, your *lifetime* personal risk is 10 percent.

But this number doesn't tell you what your *own* risk might be because you *cannot* forget about all of those other factors that raise or lower your risk. But if you include only your age (with all other personal characteristics averaged out), there are accurate statistics to consider.

When you think of your risk of developing breast cancer over the next one year from age 40 through age 70, the numbers are much smaller, though they do increase each year. For age 40, the risk is 1 in 1040 (one-tenth of 1 percent). For age 50, risk is 1 in 519 (one-fifth of 1 percent). For age 60, risk is 1 in 343 (three-tenths of 1 percent).

The numbers can be confusing, and you have a right to understand what professionals may be telling you about your health. So don't hesitate to ask them to explain until you really get the message.

*NCI leads the National Cancer Program and the NIH effort to dramatically reduce the burden of cancer and improve the lives of cancer patients and their families, through research into prevention and cancer biology, the development of new interventions, and the training and mentoring of new researchers. For more information about cancer, please visit the NCI web site at [www.cancer.gov](http://www.cancer.gov) or call NCI's Cancer Information Service at 1-800-4-CANCER (1-800-422-6237).*