



FREQUENTLY ASKED QUESTIONS ABOUT BREAST CANCER STATISTICS IN MARIN COUNTY

For a number of years, the Northern California Cancer Center (NCCC) has been watching closely breast cancer rates in Marin County based on previous findings of higher-than-average rates in this region. We have focused on rates of invasive cancer in white, non-Hispanics because this group constitutes over 80% of the female population in Marin and because breast cancer rates vary substantially by race and thereby need to be analyzed separately by race. Because there are less than ten African-American, Hispanic, or Asian women diagnosed with breast cancer in Marin County each year, breast cancer rates and trends are difficult to analyze for these groups.

1. WHAT DO THE MOST RECENT DATA SHOW REGARDING BREAST CANCER INCIDENCE IN MARIN?

The 1999 rate (230 cases per 100,000) was about 20% higher than the 1998 rate (191 cases per 100,000). This increase was statistically significant.

2. IS THIS INCREASE IN RATES LIMITED TO THIS YEAR?

This jump is a continuation of an increasing trend that we have observed over the last decade.

3. WHAT HAVE THESE TRENDS BEEN OVER THE LAST DECADE AND HOW DO THEY COMPARE TO OTHER AREAS?

Overall, breast cancer rates have increased about 60% in Marin between 1991 and 1999, as compared to increases of less than 5% in the other areas.

This table shows yearly overall incidence rates of malignant breast cancer for white, non-Hispanic women in Marin County for 1990-99.

Year	Marin County		Bay Area* Incidence rate	Urban California** Incidence rate	US** Incidence rate
	Number of cases	Incidence rate			
1990	198	167.7	149.3	141.9	
1991	173	142.9	152.5	140.8	
1992	203	171.4	149.4	143.2	133.6
1993	217	182.6	141.6	140.2	131.5
1994	207	173.7	146.6	138.4	133.1
1995	204	176.6	153.8	139.5	134.3
1996	234	201.5	156.0	142.2	133.5
1997	228	195.6	154.9	143.1	138.6
1998	230	191.3	156.3	146.5	140.5
1999	263	229.9	154.0	146.0	
1995-99 average		198.5	155.0	143.5	

All rates in this document are age-adjusted to the 2000 US age standard. * Alameda, Contra Costa, San Francisco, San Mateo, Santa Clara counties, ** Other urban counties in California excluding the Bay Area, *** Other participants in the National Cancer Institute's SEER program.

4. SO HOW DOES RECENT BREAST CANCER INCIDENCE IN MARIN COMPARE TO OTHER AREAS?

Breast cancer rates for white women in Marin are now 28% higher than rates in other counties in the Bay Area and 38% higher than rates in other urban parts of California averaged over the five most recent years for which we have data (1995-99).

5. WAS THE INCREASE IN BREAST CANCER SEEN IN ALL WOMEN, OR JUST WOMEN OF PARTICULAR AGES?

First of all, breast cancer is extremely rare under age 45, but increases steadily with age thereafter. An NCCC study of breast cancer trends among Marin women of different age groups has been shared with the Marin community and is soon to be published in the scientific literature showed that incidence trends for white women aged 45-64 in Marin have been increasing at a faster pace than for women of other ages, for whom trends have been relatively stable.

The new data show that nearly all of the increase that we saw in 1999 was in women aged 45-64, who represent about half of the breast cancers diagnosed in Marin every year. 1999 incidence rates for this age group were 25% higher than similar rates for 1998.

6. HOW DOES RECENT BREAST CANCER INCIDENCE IN MARIN WOMEN AGED 45-64 COMPARE TO OTHER AREAS?

Breast cancer rates for white women aged 45-64 are 58% higher than in other parts of the Bay Area and 72% higher than in other urban parts of California, averaged over the last five years for which we have data.

7. COULD THESE RATE INCREASES BE WRONG OR SCIENTIFICALLY FLAWED?

We don't know, because we cannot be sure of the accuracy of the 1999 population estimates from which these rates have been calculated. While NCCC is confident about the accuracy of the number of cases diagnosed, any underestimation in the population estimates could artificially inflate the cancer rates. These estimates are thought to be the best we can obtain and are produced by the California Department of Finance, but the 1999 figures are estimates made nine years after a census, and we won't know if they are accurate until they are checked against back-extrapolations from the new 2000 census.

We will have a better idea of what has really happened to Marin county breast cancer rates once 2000 census data can be worked with to produce more accurate population counts.

8. WHAT ELSE COULD EXPLAIN WHY THESE RATES COULD BE HIGHER THAN IN OTHER AREAS?

As a county, Marin has higher proportions of women with known breast cancer risk factors, including white race, lower numbers of children or later age at childbearing, college graduates and higher household incomes.

A previous NCCC study (Prehn and West, 1997) that used 1990 census data showed that when breast cancer rates could be organized by small areas (census block groups), as can be done for census years when population estimates are available for such areas, rates in Marin areas were similar to other areas in Northern California with demographic profiles similar to Marin. The findings of this study thereby suggest that the high rates in Marin relate to an unequal distribution of known breast cancer risk factors as opposed to an unnamed environmental risk unique to Marin County.

We know about the high rates in Marin County in part because it is a county and therefore we can calculate yearly cancer rates for it. It could be informative to look at breast cancer incidence trends in some of these smaller parts of the Bay Area that have similar demographic profiles to Marin, for example, Pacific Heights or Atherton, but yearly population estimates are not produced by the state or the census for areas smaller than counties. Rates in other areas smaller than a county may be just as high as they are in Marin, but we are unable to monitor that on an ongoing basis. When the 2000 Census block-group data are released, NCCC will help the County epidemiologists to try and find areas with comparable rates to Marin.

The higher average socioeconomic status of Marin county residents may also correspond to more or better mammography, but evidence to support this hypothesis is inconclusive. Some of our data show that the excess in rates is mostly limited to early-stage breast cancer, which is the type that gets picked up by mammograms. However, according to the 2001 Marin Community Health Survey, in the past year Marin County had only a slightly higher proportion of women who received mammograms than the state as a whole. The difference is significant, but may only explain part of the increasing incidence of breast cancer over time.

9. WHAT ELSE COULD EXPLAIN THE TREND OVER THE LAST DECADE?

A possible explanation could involve further concentration of women with a high-risk profile in Marin County. The population of Marin may have changed over the past decade in a way that increased even further the number of women with a high-risk profile. While doing our analysis, we noticed that the age structure of the Marin population did not change over the decade, whereas in other areas, there were increases in persons aged 45-64, a group that includes the baby boomers. This unexpected pattern may mean that there have been unusual migration patterns into and out of Marin as compared to other counties. Is it possible that because of the soaring cost of living in Marin, women who might be professional and did not have children or who delayed childbearing moved to or stayed in Marin, whereas women who had many children at an earlier age might have left the county? These are all questions that demographers might be able to answer for us.

10. HOW MANY WOMEN GET DIAGNOSED WITH BREAST CANCER IN MARIN EVERY YEAR? HOW MANY DIE?

For the most recent year for which we have data (1999), a total of 285 women in Marin County were diagnosed with invasive breast cancer, and a total of 53 women died of breast cancer.

11. HOW DO BREAST CANCER MORTALITY RATES COMPARE FOR MARIN?

Breast cancer death rates for white women in Marin (36 deaths per 100,000) are 25% higher than rates in other counties in the Bay Area and in other urban parts of California (both 29 deaths per 100,000) averaged over the five most recent years for which we have data (1995-99). Although difficult to analyze because they are based on smaller numbers than incidence rates, mortality rates in Marin seem to have been decreasing at a slower rate over the past decade than they have been in other parts of the state.

12. HOW DO BREAST CANCER MORTALITY RATES IN MARIN COMPARE TO THOSE FOR HEART DISEASE?

Heart disease is the most common cause of death of women in Marin and the US, and heart disease mortality rates are substantially higher than those for breast cancer. Compared to breast cancer, heart disease mortality rates among white women were 300% higher in Marin (109 deaths per 100,000), but 425% higher in the rest of the Bay Area (122 deaths per 100,000), and almost 500% higher in other urban parts of California (144 deaths per 100,000) averaged over the five most recent years for which we have data (1995-99).

13. WHAT ELSE SHOULD I KNOW ABOUT BREAST CANCER IN ORDER TO PUT THESE STATISTICS IN PERSPECTIVE?

Breast cancer is the most common malignancy diagnosed among women, accounting for nearly one in every three cancers diagnosed. However, lung cancers cause more cancer deaths in women than do breast cancers. The National Cancer Institute has estimated that 12.8% of all women will develop breast cancer at some point in their lifetimes. This estimation is the basis for the frequently heard “one in eight” statistic.

Breast cancer occurrence increases with age and differs considerably by race. In California, breast cancer rates are highest for white, non-Hispanic women, intermediate for African-American women, and lowest in Hispanic and Asian/Pacific Islander women. Detailed epidemiological studies have consistently linked increased risk with a first-degree family history of the disease, reproductive factors like having no children or having a first child later in life, never having breast-fed, early age at menarche (<12), and later age at menopause (>55). For breast cancer occurring after menopause, risk is also increased with obesity and recent use of combined (estrogen and progesterone) hormone replacement therapy. Alcohol consumption has also been shown in several studies to be related to increased risks, although scientific consensus has yet to be reached on its role. As of yet, there is little evidence to support environmental causes of breast cancer.

Breast cancer has better outcomes than some other cancers. On average and considering deaths due to other causes, 86% of women diagnosed with breast cancer live five years and 76% live 10 years after diagnosis.

New research into detection: While the efficacy of traditional mammography is currently being debated, diagnostic technology is improving. Digital scanners are being developed to read mammograms instead of human reading of x-ray films and ultrasound is being used increasingly to detect tumors in women with denser breast tissue. Completely new ways of screening are showing promise--these involve examining cells taken from fluid in the breast milk ducts for malignancy or abnormality.

New research into treatment: Exciting new treatments have been shown to be effective for late-stage breast cancer and are now being tested in earlier-stage disease. These include Herceptin, the antibody against the HER2/neu protein of breast cancer cells, and a class of drugs known as aromatase inhibitors. The ongoing efforts to characterize genetic and molecular features of breast cancers will allow further development of specific and less toxic therapies.

14. DOES THE NATIONAL CANCER INSTITUTE PROVIDE FREE, EXPERT INFORMATION TO PERSONS AFFECTED BY OR WORRIED ABOUT BREAST CANCER?

The NCI provides such information through the Cancer Information Service hotline: 1-800-4-CANCER. A live Cancer Information Specialist provides information and service is available in both English and Spanish.