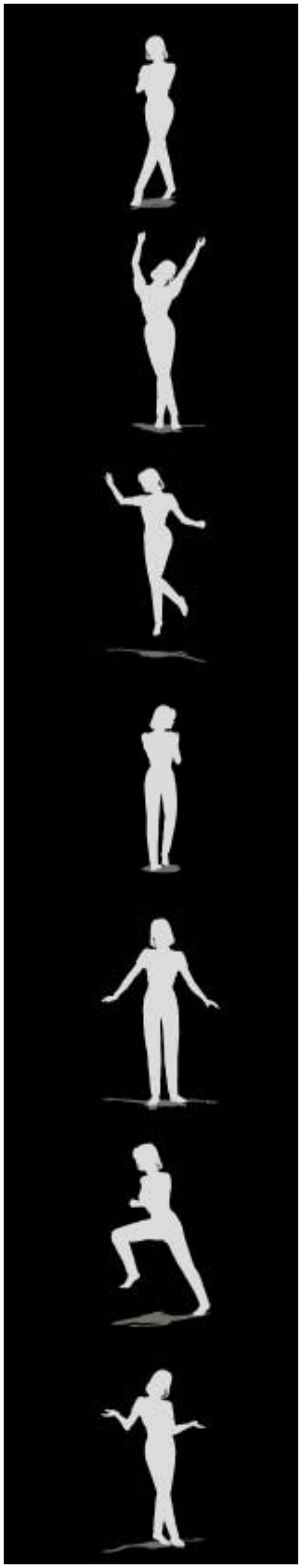

Breast Cancer
in Georgia, 1999-2002

Georgia Department of Human Resources
Division of Public Health

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What is Breast Cancer?

Breast cancer is a malignant (cancerous) tumor that starts from cells of the breast. The disease occurs most commonly in women, but men can get breast cancer as well. The information here refers only to breast cancer in women.

The breast itself is made up of lobules, ducts, fatty and connective tissue, blood vessels, and lymph vessels. Inside the breasts are glands that produce and release milk after a woman has a baby. The glands that make the milk are called lobules and the tubes that connect them to the nipple are called ducts.

Understanding the medical language as it relates to breast cancer can be challenging. Here are some terms that describe the most common types of breast cancer:

- **Ductal carcinoma in situ (DCIS):** This is the most common type of noninvasive breast cancer. Noninvasive means that the cancer has not spread through the walls of the ducts into the fatty tissue of the breast. Nearly all women with cancer at this stage can be cured.
- **Infiltrating ductal carcinoma (IDC):** This cancer starts in a milk passage or duct, breaks through the wall of the duct, and invades the fatty tissue of the breast. From there it can spread to other parts of the body. IDC is the most common type of breast cancer. It accounts for about 80% of invasive breast cancer.
- **Infiltrating lobular carcinoma (ILC):** This cancer starts in the milk glands or lobules. It can spread to other parts of the body. About 10% of invasive breast cancers are of this type.

Breast cancer is the most common cancer in Georgia women, and the second leading cause of cancer death among Georgia women. Based on data from the Georgia Comprehensive Cancer Registry, about 5,600 new cases of breast cancer will be diagnosed in 2005, and 1,180 Georgia women will die from this disease.

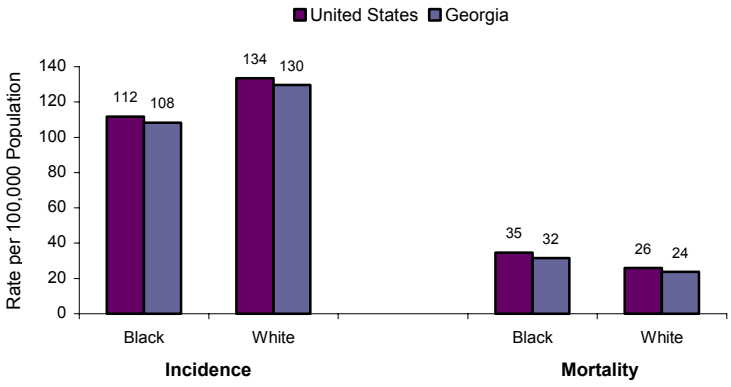
How is Breast Cancer Detected?

The earlier breast cancer is found, the better the chances that treatment will be effective. The American Cancer Society recommends the following guidelines for women without symptoms:

- **Mammogram:** Women age 40 and older should have a mammogram every year, and should continue to do so for as long as they are in good health. While mammograms can miss some cancers, they are a valuable tool for finding breast cancer.
- **Clinical breast exam (CBE):** Women in their 20s and 30s should have a clinical breast examination (CBE) as part of a regular health exam by a health professional every 3 years. After age 40, women should have a breast exam by a health professional every year. There may be some benefit in having the CBE shortly before the mammogram.

Who Develops Breast Cancer?

Breast Cancer Incidence and Mortality Rates by Race, US (1998-2002) and GA (1999-2002; 1999-2003)



Rates are age-adjusted to the 2000 US standard population.

Each year from 1999 to 2002, nearly 5000 cases of female breast cancer were reported to the Georgia Comprehensive Cancer Registry. White women were more likely to be diagnosed with the disease than were black women.

Each year from 1999-2003, over 1000 Georgia women died from breast cancer. The mortality rate for black women was higher than that for white women.

Overall, Georgia's breast cancer incidence and mortality rates were below the US average.

What are the Causes and Risk Factors for Breast Cancer?

We do not yet know exactly what causes breast cancer, but we do know that certain risk factors are linked to the disease. A risk factor is anything that indicates a person has a higher than normal chance of getting a disease such as cancer. Different cancers have different risk factors. Some risk factors, such as smoking, can be controlled. Others, like a person's age or family history, can't be controlled. But having a risk factor, or even several, doesn't mean that a person will get the disease.

While all women are at risk for breast cancer, the following factors can increase a woman's chances of having the disease.

Risk Factors That Can Be Controlled

- **Not having children:** Women who have had no children, or who had their first child after age 30, have about a 40 percent higher risk of breast cancer.
- **Birth control pills:** It is still not clear what part birth control pills might play in breast cancer risk. Studies have found that women currently using birth control pills have a slightly greater risk of breast cancer. Women who stopped using the pill more than 10 years ago do not seem to have any increased risk. It's a good idea to discuss the risks and benefits of birth control pills with your doctor.
- **Hormone replacement therapy (HRT):** It has become clear that long-term use (several years or more) of combined HRT (estrogens together with progesterone) for relief of menopause symptoms may slightly increase the risk of breast cancer as well as the risk of heart disease, blood clots, and strokes. The breast cancers are also found at a more advanced stage. As well, HRT seems to reduce the effectiveness of mammograms. Five years after stopping HRT, the breast cancer risk appears to drop back to normal.
- **Not breastfeeding:** Studies have shown that breastfeeding lowers breast cancer risk, especially if breastfeeding lasts 1½ to 2 years. This may be because breastfeeding lowers a woman's total number of menstrual periods.
- **Alcohol:** Use of alcohol is clearly linked to an increased risk of getting breast cancer. Women who have one drink a day have a very small increased risk. Those who have 2 to 5 drinks daily have about a 50 percent higher risk of breast cancer than women who drink no alcohol.
- **Obesity:** Being overweight is linked to a higher risk of breast cancer, especially if the weight gain took place during adulthood or after menopause. Also, the risk seems to be higher if the extra fat is in the waist area.
- **Exercise:** Recent studies show that strenuous exercise in your youth might provide life-long protection against breast cancer and that moderate to strenuous physical activity as an adult can lower breast cancer risk by about 60 percent. More research is being done to confirm these findings.

Risk Factors That Cannot Be Controlled

- **Sex:** Simply being a woman is the main risk factor for breast cancer.
- **Age:** The chance of getting breast cancer goes up as a woman gets older. About 8 out of 10 breast cancers are found in women over age 50.
- **Genetic risk factors:** About 1 case of breast cancer in 10 is linked to changes (mutations) in certain genes. The most common gene changes are those of the BRCA1 and BRCA2 genes. But other gene changes may raise breast cancer risk as well.
- **Family history:** Breast cancer risk is higher among women whose close blood relatives have this disease. The relatives can be from either the mother's or father's side of the family. Having a mother, sister, or daughter diagnosed with breast cancer before the age of 50 almost doubles a woman's risk.
- **Personal history of breast cancer:** A woman with cancer in one breast has a three to four times greater chance of developing a new cancer in the other breast or another part of the same breast. This is different from a recurrence of the first cancer.
- **Race:** White women are more likely to develop breast cancer than are black women. But black women are more likely to die of this cancer. Asian, Hispanic, and American-Indian women have a lower risk of breast cancer.
- **History of abnormal breast biopsy:** Having a previous biopsy result of atypical hyperplasia increases a woman's breast cancer risk by 4 to 5 times.
- **Radiation:** Women who have had chest area radiation treatment have a greatly increased risk of breast cancer. Some reports found the risk to be 12 times normal.
- **Menstrual periods:** Women who began having periods early (before 12 years of age) or who went through menopause after the age of 50 have an increased risk of breast cancer.
- **Treatment with DES:** In the 1940s through the 1960s some pregnant women were given DES (diethylstilbestrol) because it was thought to lower their chances of miscarriage. Recent studies have shown that these women have about a 35 percent increased risk of developing breast cancer.

What are the Symptoms for Breast Cancer?

The number of breast cancers that are found before symptoms occur has increased largely due to the widespread use of mammography screening. However, some breast cancers are not found because even under ideal conditions, mammography does not detect every cancer.

The most common sign of breast cancer is a new lump or mass. A lump that is painless, hard, and has irregular edges is more likely to be cancer. But some rare cancers are tender, soft, and rounded. So it's important to have anything unusual checked by a health professional who is trained to perform clinical breast examinations.

Other signs of breast cancer include the following:

- A swelling of part of the breast
- Skin irritation or dimpling
- Nipple pain or the nipple turning inward
- Redness or scaliness of the nipple or breast skin
- A nipple discharge other than breast milk
- A lump in the underarm area

What is the Risk of Being Diagnosed?

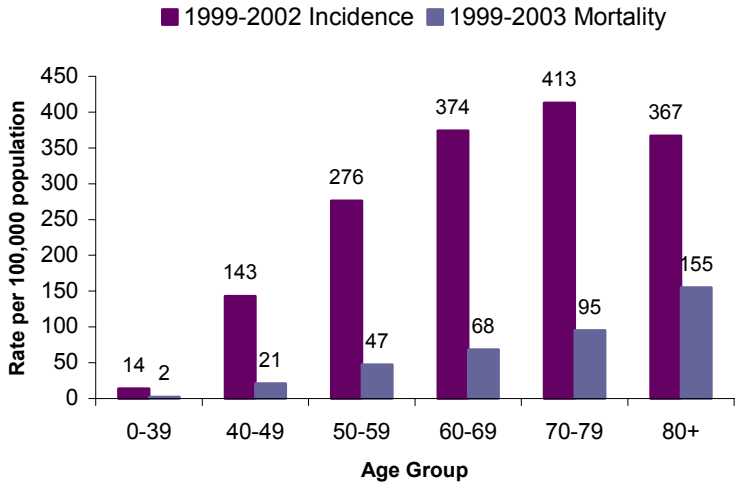
Top Five Cancer Types and Cancer-Related Deaths, Georgia Females

Cases	Deaths
Breast	Lung & Bronchus
Lung & Bronchus	**Breast**
Colon & Rectum	Colon & Rectum
Uterine Corpus	Pancreas
Ovary	Ovary

Breast cancer is the most common cancer diagnosed and the second leading cause of cancer death among women in Georgia. One in 8 American females will develop breast cancer in her lifetime.

At What Age is Breast Cancer Most Often Diagnosed?

Georgia Breast Cancer Incidence and Mortality by Age Group



Rates are age-adjusted to the 2000 US standard population.

Although breast cancer incidence and mortality rates are highest in older women, breast cancer may also occur in younger women. In Georgia, women over the age of 60 have the highest rate of breast cancer. Mortality rates steadily increase with age; the highest mortality rates are seen in women 80 years of age and older. Before the age of 40, breast cancer deaths are very rare, but they do occur occasionally. Every year, about 54 Georgia women under 40 years of age die from breast cancer.

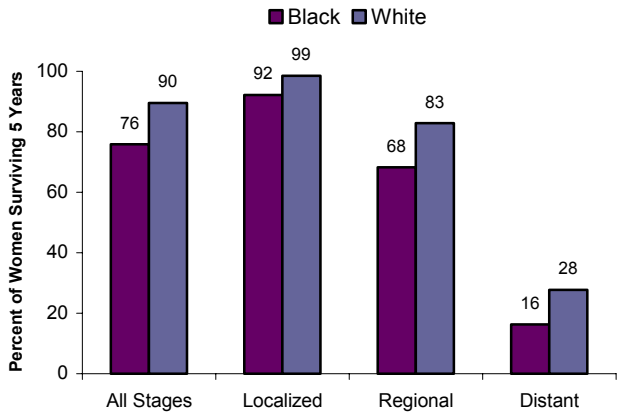
What is the Treatment for Breast Cancer?

Each type of treatment has benefits and side effects. Age, overall health, and the stage of the cancer are all factors to consider. Staging is a standardized way to summarize information about how far a cancer has spread from its point of origin. In situ breast cancers are contained within the ducts or lobules inside the breast. Localized breast cancers have invaded the breast tissue and fat, but have not spread beyond the breast. Regional stage breast cancers have spread beyond the breast to the chest wall, skin, and/or to the lymph nodes of the breast and underarm area on the same side of the chest. Distant stage breast cancers have spread to distant sites such as bone (except adjacent rib), liver, or lung, or the other breast. Distant stage also includes dissemination to lymph nodes on the opposite side of the chest or to distant lymph nodes.

- **Surgery:** Most women with breast cancer will have some type of surgery to treat the primary breast tumor. The purpose of surgery is to remove as much of the cancer as possible. The type of surgery performed will depend mainly on the stage of the tumor. Surgery may include a lumpectomy (the breast lump and some normal tissue around it are removed), a simple mastectomy (the entire breast is removed), or a modified radical mastectomy (the entire breast and some of the lymph nodes under the arm are removed). Surgery can also be done to restore the breast's appearance (reconstructive surgery) or to relieve symptoms of advanced cancer.
- **Chemotherapy:** Chemotherapy involves the use of drugs to kill the cancer cells. If chemotherapy is given after surgery (adjuvant therapy) it can reduce the chance of the cancer returning. Neoadjuvant chemotherapy is given before surgery, often to shrink the tumor making it easier to remove. Chemotherapy can also be used as the main treatment for cancer that has spread outside the breast and underarm area or spreads widely after initial treatment.
- **Radiation Therapy:** Radiation therapy is treatment with high-energy rays to kill or shrink cancer cells. The radiation may come from outside the body (external radiation) or from radioactive materials placed directly in the tumor (internal or implant radiation). Radiation therapy may be used to destroy cancer cells remaining in the breast, chest wall, or underarm area after surgery or, less often, to reduce the size of a tumor before surgery.
- **Hormone Therapy:** The female hormone estrogen can increase the growth of breast cancer cells in some women. A drug such as tamoxifen, which blocks the effect of estrogen, can be given to counter this growth.
- **Immunotherapy:** The HER2/neu protein is a growth-promoting protein found in normal breast cells and most breast cancers. Some breast cancers have too much of this protein which can cause the cancer to grow and spread faster. Herceptin can stop the HER2/neu protein from causing breast cancer cell growth. It may also help the immune system to better attack the cancer.

Who Survives Breast Cancer?

Percent of US Women Surviving Five Years after Diagnosis with Breast Cancer, by Stage of Disease and Race, 1995-2001



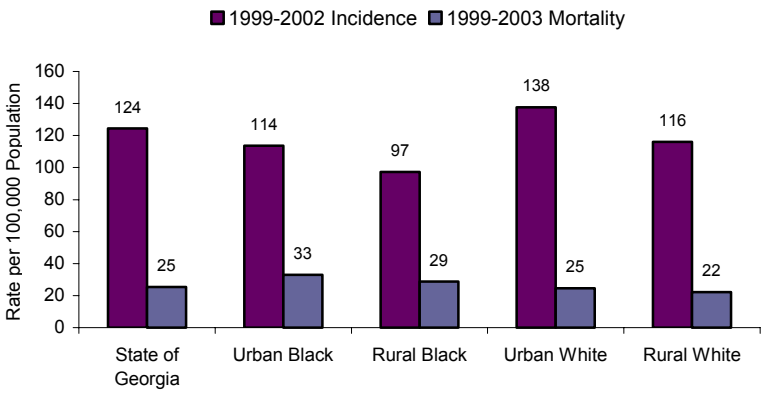
% of tumors found at this stage*	US† Black	53%	35%	9%
	US† White	64%	29%	5%
	GA† Black	50%	38%	7%
	GA† White	63%	30%	3%

*** Unstaged tumors are not shown.**
† US data is for 1995-2001; Georgia data is for 1999-2002

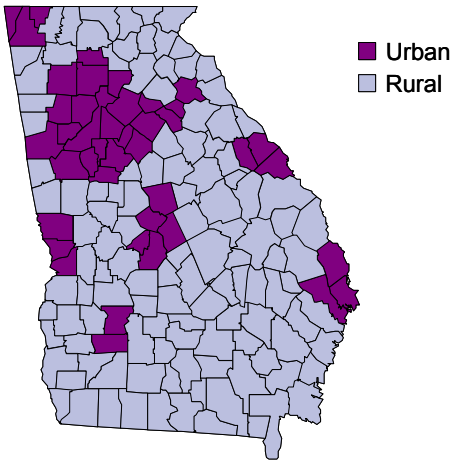
Early detection is important because survival for early stage breast cancer is much greater than that for later stage disease. Five-year survival for tumors found in the localized stage is 92 percent among US black women and 99 percent among US white women. In Georgia, about 50 percent of cases among black women and about 63 percent of cases among white women are diagnosed in the localized stage. If the cancer is diagnosed at the distant stage, five-year survival drops to about 16 percent for US black women and 28 percent for US white women. Detection and treatment of breast cancer have greatly improved in recent years, with the five-year relative US survival rate for all stages combined significantly increasing from 75 percent in 1974-1976 to 88 percent in 1995-2001.

How Does Breast Cancer Vary by Region?

Georgia Breast Cancer Incidence and Mortality Rates by Race and Geography



Rates are age-adjusted to the 2000 US standard population.



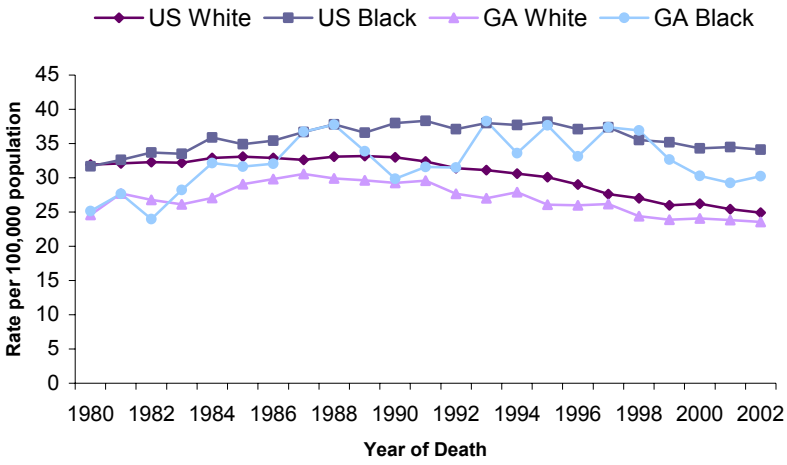
Women living in Georgia's urban counties are at a significantly greater risk of developing breast cancer than are women living in rural Georgia. Incidence rates are 16 percent higher and mortality rates are 12 percent higher in urban counties than in rural counties.

White women living in Metropolitan Atlanta have the highest breast cancer incidence rate in Georgia (140.3 per 100,000). Black women living in rural Georgia have the lowest rate (97.3 per 100,000).

Breast cancer mortality rates are nearly 50 percent higher among urban black women (33.0 per 100,000) than among rural white women (22.3 per 100,000).

How Does Georgia Compare with the United States?

Breast Cancer Mortality Rates, Georgia vs. the US, by Race, 1980-2002



Rates are age-adjusted to the 2000 US standard population.

From 1980 through 2002, the breast cancer mortality rates among Georgia women were slightly lower than for the rest of the United States. Mortality rates are generally higher among black women than white women.

The mortality rates for both white and black women in Georgia have been declining since 1988. The average annual decrease has been 1.7% for white women and 0.8% for black women.

Where Can I Find Out More about Breast Cancer?

American Cancer Society
Telephone: 1-800-ACS-2345
Internet Address: http://www.cancer.org

Cancer Control Planet
Internet Address: http://cancercontrolplanet.cancer.gov/

Encore Plus Program of the YWCA
Office of Women's Health Initiatives
Telephone: 1-800-953-7587 or 202-467-0801
Internet Address: http://www.ywca.org

National Breast Cancer Coalition
Telephone: 1-800-622-2838 or 202-296-7477
Internet Address: http://www.natlbcc.org or
http://www.stopbreastcancer.org

National Cancer Institute, Cancer Information Service
Telephone: 1-800-4-CANCER or 800-422-6237
Internet Address: http://www.cancer.gov/

National Coalition for Cancer Survivorship
Telephone: 1-877-NCCS-YES or 877-622-7937
Internet Address: http://www.canceradvocacy.org/

Susan G. Komen Breast Cancer Foundation
Telephone: 1-800-IM AWARE or 800-462-9273
Internet Address: http://www.komen.org/

Y-Me National Breast Cancer Hotline
Telephone: 1-800-221-2141, 1-800-986-9505 (Spanish)
Internet Address: http://www.y-me.org

Technical Notes

Definitions:
Age-adjusted rate: A rate calculated in a manner that allows for the comparison of rates derived from populations with different age structures.
Cancer incidence rate: The number of new cancer cases occurring in a population during a specified period of time. Often expressed per 100,000 population.
Cancer mortality rate: The number of cancer deaths occurring in a population during a specified period of time. Often expressed per 100,000 population.

Data Sources:
The number of deaths and mortality rates for the state of Georgia were obtained from the Georgia Department of Human Resources, Division of Public Health, Vital Records Branch. The number of deaths and mortality rates for the United States were obtained from the North American Association of Central Cancer Registries (NAACCR) and from the Surveillance, Epidemiology, and End Results (SEER) program, National Cancer Institute. Mortality data were coded using ICD-9 (1980-1998) and ICD-10 codes (1999-2003). The ICD-9 codes for breast cancer are 174.0-174.9, while the ICD-10 codes are C50.0:C50.9.

The number of new cases and incidence rates for the state of Georgia were obtained from the Georgia Department of Human Resources, Division of Public Health, Georgia Comprehensive Cancer Registry. The number of new cases and incidence rates for the United States were obtained from NAACCR. Incidence data were coded using ICD-O2 codes (1999-2000) and ICD-O3 codes (2001-2002). The ICD-O codes used for breast cancer are C50.0:C50.9.

Cancer stage and survival data for the United States were obtained from SEER.

Population projections for 2005 were obtained from the Office of Planning and Budget for the state of Georgia. Population estimates for 1980-2003 and the 2000 US standard population were obtained from the US Bureau of the Census.

Methods:
Incidence rates were calculated per 100,000 population and age-adjusted by the direct method to the 2000 US standard population. The incidence rates are four-year average annual rates for the period 1999 through 2002, as these are the years in which Georgia Comprehensive Cancer Registry data are greater than 95% complete. Mortality rates were calculated per 100,000 population and age-adjusted by the direct method to the 2000 US standard population. Except where calculated to show trends, the mortality rates are five-year average annual rates for 1999-2003.

The estimated number of cases for 2005 was calculated by multiplying age-specific incidence rates for 1999-2002 by age-specific population projections for 2005. The estimated number of deaths for 2005 was calculated by multiplying age-specific mortality rates for 1999-2003 by age-specific population projections for 2005.