

CLINICAL SNAPSHOT – BREAST CANCER SCREENING

WHAT IS BREAST CANCER?

Breast cancer is a malignant tumor that has developed from cells of the breast. It may invade surrounding tissues or spread (metastasize) to distant areas of the body. The disease occurs almost entirely in women, but men can get it, too. Since less than 1% of breast cancers deaths occur in men, the remainder of this document refers only to breast cancer in women.^{1,4}



The female breast is made up mainly of lobules (milk-producing glands), ducts (milk passages that connect the lobules to the nipple), and stroma (fatty tissue and connective tissue surrounding the ducts and lobules, blood vessels, and lymphatic vessels). Most breast cancers begin in the ducts (ductal), some in the lobules (lobular), and the rest in other tissues. Cancer cells can enter lymphatic vessels and begin to grow in the lymph nodes. When breast cancer cells reach the axillary (underarm) lymph nodes, they may continue to grow, often causing the lymph nodes in that area to swell. If breast cancer cells have spread to the underarm lymph nodes, they may have also spread to other organs of the body as well.¹

Most breast cancers occur in women over the age of 50,² placing female Medicare beneficiaries at particular risk. Improvements in mammography have led to detection of early stage breast cancer² and periodic screening mammography has been shown to save lives by detecting breast cancer early, when it is most treatable.

PREVALENCE IN THE UNITED STATES

Breast cancer is the most frequently diagnosed non-skin cancer in women, affecting approximately 1 in 8 women in the United States over the course of a lifetime. It is the second leading cause of cancer death in American women. An estimated 207,090 new cases of invasive breast cancer and 39,840 breast cancer deaths are expected to occur in 2010.³ An additional 54,010 cases of in situ (early stage tumors confined to the site where originated) breast cancer are expected in 2010.^{4,3} At this time, there are slightly over 2.5 million women living in the U.S. who have been diagnosed with and treated for breast cancer.⁵

More than 65% of breast cancers occur in women 55 years and older.⁶ Between 2000 and 2003, 43% of the cases of invasive breast cancer were in women 65 years of age and older:⁶

| <u>Age of Woman</u> | <u>Percentage Distribution of Invasive Breast Cancer</u> |
|---------------------|--|
| Less than 20 | 0.0% |
| 20-34 | 1.9% |
| 35-44 | 10.6% |
| 45-54 | 22.1% |
| 55-64 | 22.8% |
| 65-74 | 20.4% |
| 75-84 | 16.8% |
| 85+ | 5.4% |

The risk of developing breast cancer increases with age as illustrated below:²

| <u>Age of Woman</u> | <u>Chance of Developing Invasive Breast Cancer within 10 Years</u> |
|---------------------|--|
| 30-39 | 1 in 233 (0.43%) |
| 40-49 | 1 in 69 (1.45%) |
| 50-59 | 1 in 42 (2.38%) |
| 60-69 | 1 in 29 (3.45%) |

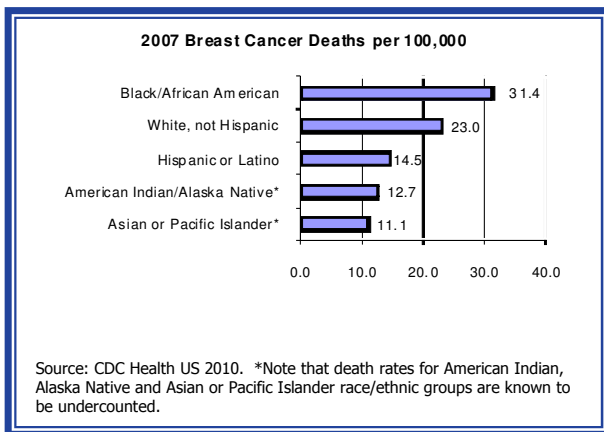
Between 1973 and 1998, there was a 40% increase in the reported incidence of female breast cancer because of enhanced detection through the widespread adoption of screening mammography.³ Improvements in mammography also led to detection of early stage breast cancer and ductal carcinoma in situ where the cancer cells are confined to milk ducts in the breast and have not spread into the fatty breast tissue or to any other part of the body (such as the lymph nodes).² Breast cancer mortality rates have declined by approximately

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2% per year since 1991, as the result of both earlier detection and improved treatment.⁴

Risk factors for breast cancer include:^{3,7}

- Gender (being female)
- Age (being older)
- Early age of menarche (menstruation)
- Late age at first birth
- History of prior breast biopsies (particularly for proliferative benign breast disease)
- Radial scars in benign breast-biopsy specimens (also known as radial sclerosing lesions – most are unrelated to prior surgery)
- Family history of breast cancer (particularly first-degree relative)
- Genetic alterations (i.e., BRCA1, BRCA2, and others)
- History of breast cancer (invasive breast cancer, ductal carcinoma in situ, or lobular carcinoma)
- Prior thoracic radiation (particularly when under age 30)
- Breast tissue that is dense on a mammogram
- Hormone use (such as estrogen and progesterone)
- Race (particularly Caucasian)
- Daughters of mothers who received diethylstilbestrol (DES) during pregnancy
- Obesity after menopause
- Physical inactivity
- Alcohol intake



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Minority populations are disproportionately affected by breast cancer. Although the incidence of breast cancer is lower among black women compared with white women, the mortality rate is higher for black women.⁹

COSTS OF BREAST CANCER

For 2006, the National Cancer Institute (NCI) estimated the annual national expenditures for treatment of female breast cancer, expressed in 2006 dollars, at about \$13.8 billion.¹⁰

EARLY DETECTION OF BREAST CANCER

The goal of screening examinations for early detection is to find cancers before they cause symptoms. Breast cancers detected because they are causing symptoms tend to be relatively larger and are more likely to have spread beyond the breast.¹¹ The earliest physical signs and symptoms of breast cancer are:⁴

- Breast lump, thickening, swelling, distortion, or tenderness
- Skin irritation or dimpling
- Nipple pain, scaliness, ulceration, retraction, or spontaneous discharge.

In contrast, breast cancers found during screening examinations are more likely to be small and still confined to the breast.¹¹

Mammography is the most effective way to detect breast cancer at its earliest, most treatable stage. This screening test detects cancers before physical signs or symptoms develop and that are too small to be felt during a clinical breast examination or during self-breast examinations.⁴ Mammograms detect both invasive and non-invasive cancers.

The U.S. Preventive Services Task Force (USPSTF)¹² estimates that biennial screening may reduce the risk of dying from breast cancer by 24% for women age 50 to 74. The 5-year survival rate for cancer that has not spread to lymph nodes or other locations outside the breast is 98%. The survival rate decreases to 84% if the cancer has spread regionally and falls to 23% if the cancer has distant metastases.⁴

Mammography utilizes radiation to image breast tissue from the nipple to the pectoral muscle. The examination is performed by compressing the breast firmly between a plastic plate and an x-ray cassette, and usually two views are taken of each breast. Since the early 1990s, all facilities that perform mammograms are required to be certified by the Food and Drug Administration. This certification has resulted in better training of personnel, improved mammogram technique, and lowered radiation doses received.³

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Mammography Recommendations

A number of major organizations and agencies have developed clinical practice guidelines and recommendations concerning mammography utilization. The chart below lists recommendations from the American Academy of Family Physicians (AAFP),¹³ American Cancer Society (ACS), American College of Radiology (ACR),¹⁴ American Medical Association (AMA),¹⁵ NCI¹⁶, and USPSTF.¹²

The ACS, ACR, and AMA recommend annual mammograms for women beginning at age 40. The NCI recommends mammograms every 1 to 2 years beginning at age 40. The AAFP and USPSTF recommend mammograms every 2 years between the ages 50-74. The USPSTF concludes that the current evidence is insufficient to assess the additional benefits and harms of screening mammography in women 75 years or older.

| Organization | Screening mammogram beginning at age 40 | Screening mammogram at age 50 | Annual screening mammogram | Screening mammogram every 1-2 years | Screening mammogram every 2 years |
|--|---|-------------------------------|----------------------------|-------------------------------------|-----------------------------------|
| American Academy of Family Physicians (AAFP) | | X* | | | X |
| American Cancer Society (ACS) | X | | X | | |
| American College of Radiology (ACR) | X | | X | | |
| American Medical Association (AMA) | X | | X | | |
| National Cancer Institute (NCI) | X | | | X | |
| U.S. Preventive Services Task Force (USPSTF) | | X* | | | X |

*The AAFP and USPSTF recommend the decision to conduct screening mammography before age 50 should be individualized and take into account patient context including the patient’s risks as well as values regarding specific benefits and harms.

Source: Organization Practice Guidelines

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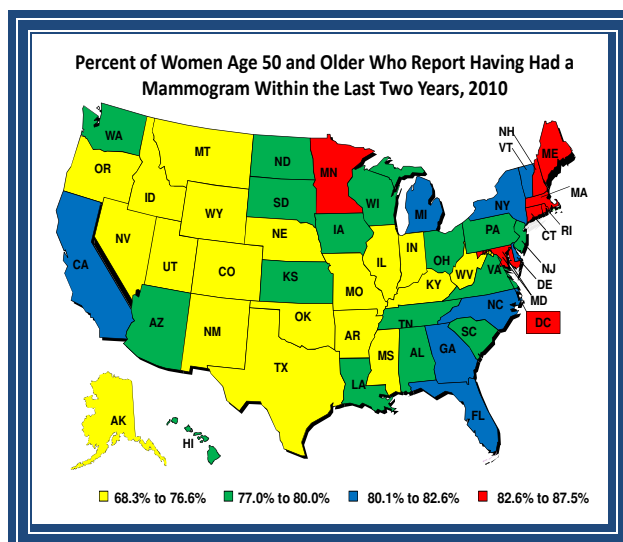
What Medicare Covers:

Medicare coverage is more in line with the recommendations listed by the ACS, ACR and AMA regarding yearly mammograms.

All women with Medicare ages 40 and older are eligible to receive a screening mammogram every 12 months. Medicare also covers digital technologies for screening mammograms. Medicare pays for one baseline mammogram for women with Medicare between ages 35 and 39. A doctor's prescription or referral is not necessary for Medicare payment of screening mammograms. There is no Part B deductible, but a 20% co-insurance or co-payment applies.¹⁷

CURRENT PERFORMANCE LEVEL

Although early detection has proven to reduce mortality resulting from the disease, mammogram screening rates for the U.S. population remain moderate. In an effort to coordinate national health promotion and prevention strategies, the U.S. Department of Health and Human Services established the Healthy People initiative. A specific goal for Healthy People 2020 is to reduce the number of new cases as well as the illness, disability, and death caused by cancer. The Healthy People 2020 objective established for mammography utilization is to have 81.1% of all women 50 – 74 years receive breast cancer screening.¹⁸ The map below shows rates by each state for women age 50 and older in the non-institutionalized civilian population who report having had a mammogram within the last two years.¹⁹



FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

(Insert QIO Contact Information here)

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