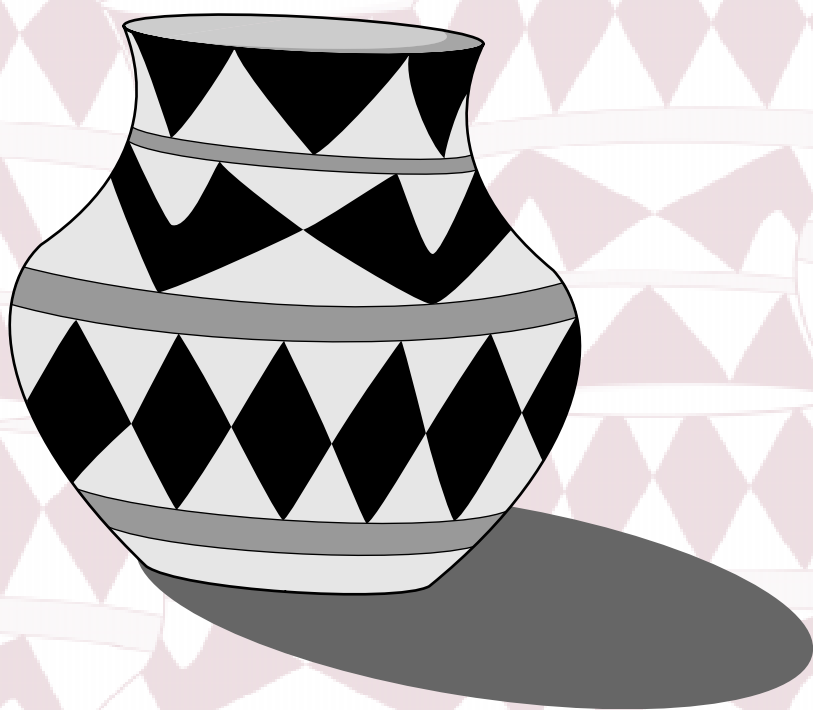


# **Breast Cancer in New Mexico**

**A Handbook for  
Health Care Providers 2000**





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New Mexico Department of Health, Breast and  
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CHAPTER

1

# Breast Cancer

- Breast cancer is the most frequently diagnosed cancer among women.
- In 2000, an estimated 182,800 women in the United States will be newly diagnosed with breast cancer, and an estimated 40,800 women will die of the disease.
- Breast cancer incidence and mortality patterns vary substantially among the major ethnic groups.
- There has been a trend over time toward diagnosis of smaller size tumors for all ethnic groups, probably due to early mammographic screening.

# Breast Cancer in the United States

Breast cancer is the most common type of cancer in women and the second leading cause of cancer-related deaths. In 2000, the American Cancer Society (ACS) estimates that approximately 182,800 new cases of invasive breast cancer will be diagnosed and that 40,800 women will die from this disease. Approximately one out of every eight women in the United States who lives to be 85 years or older will develop breast cancer during her lifetime.

However, women have a good chance of surviving breast cancer for many years when it is detected early. Nationwide, the 5-year relative survival rate for women diagnosed with *in situ* breast cancer is 97%, up from 78% in the 1940s. Early detection is essential in effective treatment of breast cancer: the 5-year survival rate drops to 78% for cancer diagnosed at a regional stage and as low as 22% for cancer diagnosed at a distant stage (ACS, 2000).

About 0.9% of breast cancer in the United States affects males. In 2000, 1400 new cases of breast cancer are expected to be diagnosed in men. Notable differences from women include older age at presentation and subareolar location. Diagnosis at advanced stages, rather than indicating a more aggressive disease than in women, is often a result of inattention and delay of diagnosis.

**Incidence—Nationwide Trends:** Breast cancer incidence increased more or less steadily between 1940 and 1987 and has since stabilized at 109.6 cases per 100,000 women. Non-Hispanic white women are more likely to develop breast cancer than African American women (or other ethnic groups such as Hispanic or American Indian women). Incidence rates increased more for older women than younger, and more for African American than for non-Hispanic white women. **This increase and later stabilization of rates is believed to be related to increased use of breast cancer screening methods, particularly mammography.**

Since the major risk factors for developing breast cancer (such as age, gender, and genetic susceptibility to cancer) are inherited or otherwise beyond women's control, identifying and addressing factors which can lead to prevention and early stage diagnosis of breast cancer are essential to improving breast cancer survival and women's health. Nationally, women over age 50, women who have low formal education levels, women of low socioeconomic status, and African American women are at particular risk for later stage breast cancer at diagnosis and have lower overall survival rates.

**Mortality—Nationwide Trends:** Mortality from breast cancer has been relatively stable since 1950 but since 1989 has declined 5.5% among non-Hispanic white women nationwide. However, mortality increased 2.6% for African American women during the same period. The recent decline in breast cancer mortality among non-Hispanic white women has been attributed in part to increases in breast cancer awareness and screening, leading to increased diagnosis of the disease at earlier stages (ACS, 2000).

### Probability of Developing Invasive Breast Cancer Over Selected Age Intervals, United States, 1994–1996

#### Probability

Birth to 39 years	1 in 235
40 to 59 years	1 in 25
60 to 79 years	1 in 15
Birth to Death	1 in 8

American Cancer Society, Surveillance Research

# Risk Factors for the Development of Breast Cancer

Lifetime risk is the probability that an individual, over the course of a lifetime, will be diagnosed with or die from cancer. A woman in the United States has a 12.6%, or 1 in 8 risk of developing breast cancer, and a 3.6%, or 1 in 28 risk of dying from breast cancer over her lifetime.

Relative risk is a measure of the strength of the relationship between risk factors and cancer. Cancer risk factors can either be conditions which directly cause the disease (e.g., smoking and lung cancer) or personal characteristics which are only indirectly associated with cause — as is the case for almost all the risk factors for breast cancer.

## Established Risk Factors for Breast Cancer:

**Sex:** Breast cancer is overwhelmingly a disease of women.

**Increasing Age:** Breast cancer risk increases dramatically after age 45. Risk declines for women age 80 and older.

**Personal History of Breast Cancer:** Invasive and *in situ* breast cancers increase the lifetime risk of developing a new breast cancer in any remaining breast tissue in either breast. Women whose first breast cancer was diagnosed before age 50 are at greatest risk of having a second primary breast cancer. A contralateral primary breast cancer occurs in approximately 15% of these women.

**Family History of Breast Cancer:** Any family history of breast cancer is associated with an increase in risk. However, only a history of breast cancer in a first-degree relative (mother, sister, or daughter), particularly a breast cancer diagnosed before menopause, is associated with a significant increase. Most family history of breast cancer probably does not represent a direct genetic inheritance link but rather life-style similarities and the inheritance of selected risk factors (menstrual patterns, obesity). Most genetically determined breast cancers occur at

### Primary Risk Factors for Developing Breast Cancer

- Sex (being female)
- Increasing age
- Personal history of breast cancer
- Family history of breast cancer
- Personal history of benign breast disease

younger ages, are more likely to be bilateral, and appear in multiple family members over three or more generations.

**Personal History of Benign Breast Disease:** Biopsy-confirmed benign breast disease is associated with an increased risk of breast cancer. This risk may be confined primarily to women with diagnoses of atypical (lobular or ductal) hyperplasia.

## Other Risk Factors

**Hormonal Factors:** Increased lifetime exposure to female hormones may increase a woman's lifetime risk of developing breast cancer. Situations which can increase this exposure include:

- Early age at menarche
- Late age at menopause
- Late age at first live birth
- Few pregnancies/low parity
- Hormone therapy

**Hormone Therapy:** Endogenous estrogens are the principal regulator of growth and differentiation in normal breast tissue during puberty and pregnancy. There is substantial epidemiological and experimental evidence that hormones are also important in the etiology of breast cancer. Risks associated with the use of oral contraceptives (OC) are not well defined, though a recent meta-analysis found that current users of OCs had a higher relative risk of breast cancer (RR 1.24) than women who had never used oral contraceptives. Notably, tumors diagnosed in women who were using or had used OCs were generally less advanced clinically than those diagnosed in women who had never used OCs. (Collaborative group, 1996).

Use of hormone replacement therapy (HRT) is associated with an increased risk of invasive breast cancer. Women currently receiving HRT for menopause have an increased breast cancer risk (RR 1.36) and this risk may rise in women who use HRT beyond five years. Nevertheless, HRT has been speculated to improve cardiovascular measures and prevent bone loss, along with relieving menopausal symptoms (Colditz, 1995). More recent studies have shown that HRT with estrogen and progestin appears to increase the risk of breast cancer compared to the use of estrogen alone. Some researchers speculate progestin's adverse impact on breast tissue may make sense since cell division in the breast is greatest during the part of

the menstrual cycle when the most progesterone is produced (Ross, 2000; Schairer, 2000). Because of the studies' designs, caution should be used in interpreting these results. However, these studies suggest that postmenopausal estrogen use for more than 5–10 years increases a woman's risk for breast cancer, and that the addition of progestin increases that risk further. The decision to use HRT should include an assessment of the risks and benefits in each individual.

**Radiation Exposure:** Excessive exposure to ionizing radiation may increase risk since breast tissue appears to be particularly sensitive to the carcinogenic action of radiation.

**History of Other Cancers:** History of endometrial, ovarian, and/or colon cancer increases lifetime risk for breast cancer.

**BRCA1/2 Carriers:** Both prospective and retrospective genetic epidemiologic studies have demonstrated that women who carry mutations in either BRCA1 or BRCA2 genes are at very high risk for developing both breast (50–85%) and ovarian (10–45%) cancers (Thorlacijs, 1998). It is not known whether anti-estrogens, or any chemoprevention drug, can prevent the development of malignancy in women with heritable risk. It does appear that both BRCA 1 and 2 act in part as tumor suppressor genes. Women with genetic mutations may appear to be candidates for tamoxifen, but there is no data yet available that relates directly to them (Vogel, 2000). Until these studies are completed, the use of these anti-estrogenic agents in women with BRCA 1 and BRCA 2 carriers should be limited to the research setting.

**Obesity/Dietary Fat Intake:** Some researchers hypothesize that high fat intake may increase breast cancer risk. The major evidence behind this hypothesis is that per capita fat consumption around the world is highly correlated with national breast cancer mortality (Lipworth, 1994). Collectively, the evidence from case-control studies suggests that fat intake during adult life may be associated with a modest increase in the risk of breast cancer (Lipworth, 1994), and a greater incidence of breast cancer occurs in postmenopausal women who are obese. However, there are many potential limitations to these studies and no definitive results. The cohort studies have found no link between breast cancer and dietary fat (Hunter, 1996).

**Socioeconomic Status:** Breast cancer is more common in women of higher socioeconomic status. This increased risk may be due to early menarche (which may or may not be related to socioeconomic status), late age for first birth, and low parity. Women with higher formal education, for example, are likely to have their first child later and to have fewer children. In addition, availability and accessibility of screening methods and health care may contribute to a higher incidence of reporting for this group.

**Alcohol, Pesticides, Diet, Smoking, and Lack of Exercise** have also been investigated as possible risk factors for breast cancer, but causal relationships have not been established. Increased folate intake may be protective against breast cancer (Zhang, 1999).

### Chemoprevention

**Tamoxifen:** Tamoxifen has historically been used to treat rather than prevent breast cancer. Several breast cancer treatment trials reported a decrease in the incidence of contralateral breast cancers. The National Surgical Adjuvant Breast and Bowel Project (NSABP) designed a study, the Breast Cancer Prevention Trial, to assess the efficacy of tamoxifen for breast cancer prevention in women at increased risk for the disease. The relative risk was reduced by 44% in women 49 years or younger, 51% in women 50-59 years and 55% in women 60 years and older. Endometrial cancers were more common in those using tamoxifen and the rates of stroke (RR 1.59), pulmonary embolism (RR 3.01) and deep venous thrombosis (RR 1.60) were elevated as well in the tamoxifen group. Tamoxifen is approved in the US for reduction of breast cancer risk in women at high risk for the disease, based on the NSABP trial. Only women at increased risk should consider tamoxifen and they should receive therapy for five years (Vogel, 2000).

**Raloxifene:** Raloxifene acts on reproductive hormones and is being examined for breast cancer risk reduction. The Study of Tamoxifen and Raloxifin (STAR) trial is currently enrolling participants. This trial tests the risk reduction for tamoxifen and raloxifene in a randomized, controlled manner with breast cancer incidence as the primary end point.

Other anti-estrogens, i.e., toremifene citrate and droloxifene, may also be useful in preventing breast cancer. Another approach to breast cancer prevention is the use of retinoids. However, no large-scale studies of the use of these compounds for prevention have been completed as of yet.



CHAPTER

# 2

## Breast Cancer in New Mexico

- Breast cancer is the most frequently diagnosed cancer among women in New Mexico.
- In 2000, an estimated 1000 women will be newly diagnosed with breast cancer, and an estimated 200 women will die of the disease.
- Breast cancer incidence and mortality patterns vary substantially among the state's major ethnic groups (non-Hispanic white, Hispanic, and American Indian).

## New Mexico's Demographics

- Health**
- In 1997, New Mexico ranked 42nd in state health rankings.
  - 24.7% of New Mexicans lacked health insurance compared to 17.8% nationwide.
  - New Mexico's cancer rate is the 5th lowest nationally with 358.4 cases per 100,000 compared with 409.8 nationally.
- Income**
- New Mexico's per capita personal income is 22% lower than the national average.
- Age**
- New Mexico's population remains relatively young, but the age structure is changing. The 45–64 age group grew the fastest during 1990–1993 — twice the national rate for this group.

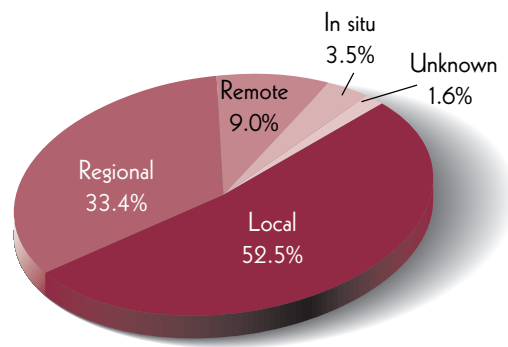
Data compiled from the 1990 Census and the Henry J. Kaiser Foundation.

In 1998, cancer of the breast once again became the most common cancer diagnosed in New Mexico. The 1118 cancers of the breast (male and female) is an increase from the 1039 cancers diagnosed in 1997, and accounts for 17% of all cancers diagnosed in New Mexico residents in 1998. Four percent of breast tumors were unstaged at the time of diagnosis. Seventy-one percent of all breast cancers were *in situ* (18%) or local (53%). This represents an overall 1% increase from the experience in 1997, with a 3% decrease for *in situ* cancers. The majority of those cancers which had spread beyond the breast were regional (21%) with 3.5% of all breast cancers diagnosed at the remote stage. This represents a 2% increase in regional staged cancer since 1997.

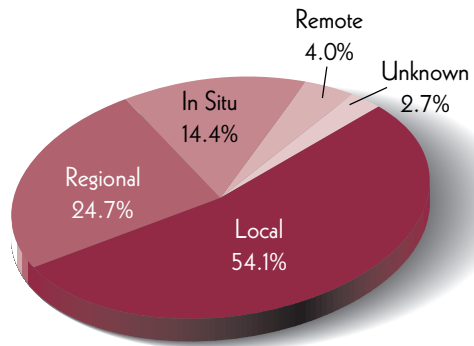
Age adjusted incidence rates show a large increase in American Indian breast cancer cases since the 1988–92 time period, a moderate increase in Hispanic women, with a slight increase in the non-Hispanic white population over the same time frame. The 5-year adjusted incidence rates indicate an upward trend for breast cancer incidence in American Indian women in the most recent years.

The 5-year survival rate among persons diagnosed with breast cancer between 1973 and 1998 was 81% for all stages, 90% for local disease, 70% for regional stage and 21% for distant stage. This represents an overall 1% increase in 5-year survival rates for all stages. In 1998, the 10-year survival rate for all stages combined was 69% and the survival rate for those with local stage of disease at diagnosis was 81%. Again, this represents an overall 1% increase in the 10-year survival rates.

**Breast Cancer in New Mexico by Stage at Diagnosis, 1973–1977 Compared with 1993–1998**



1973–77

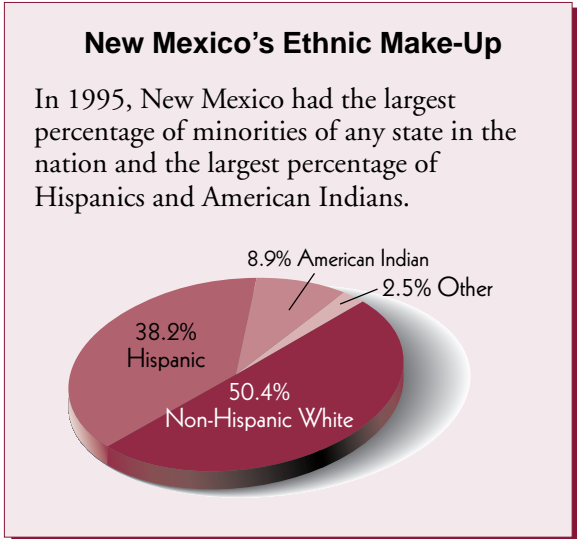


1993–98

Source: New Mexico Tumor Registry, 2000.

# Breast Cancer and Ethnicity

Breast cancer epidemiology in New Mexico differs from the nationwide pattern and reflects the ethnic and age distribution of the state. Patterns of breast cancer incidence and mortality vary widely among its three main racial and ethnic groups: non-Hispanic white, Hispanic, and American Indian. Although African American women represent a small percentage of New Mexico's population, they are particularly important to include in all screening programs because of their disproportionate breast cancer mortality. In New Mexico, non-Hispanic white women are at greatest risk for developing breast cancer, American Indian women are at least risk, and Hispanic women are in between the other two groups. These rates may reflect genetic/hereditary differences between non-Hispanic whites, Hispanics, and American Indians, as well as lifestyle factors.



## Breast Cancer in Non-Hispanic White Women

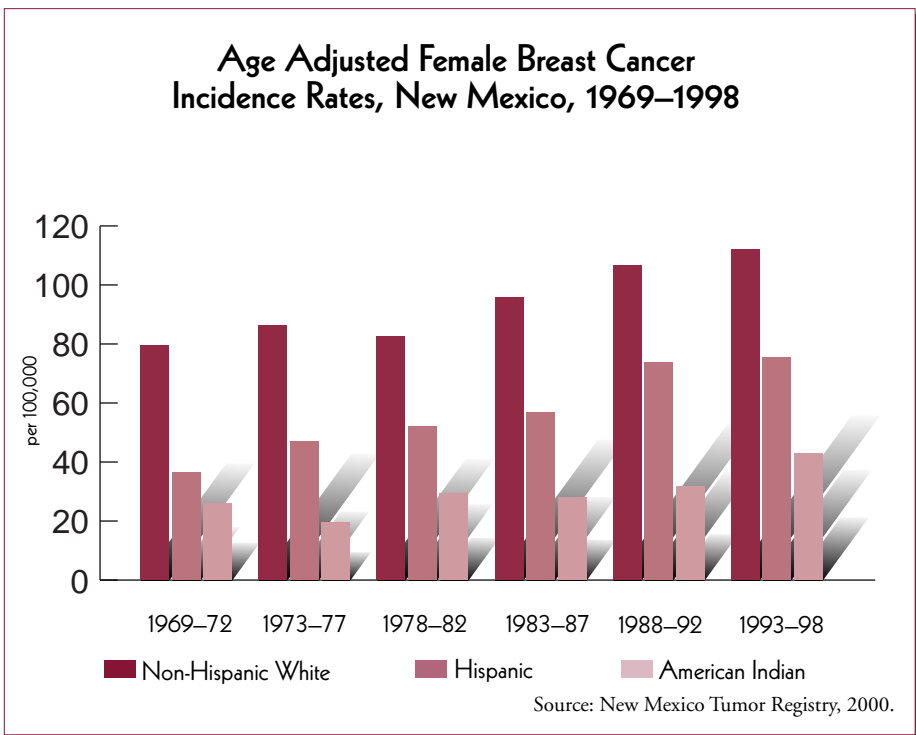
- Incidence Rate** Higher than African American, American Indian, and Hispanic women
- Mortality Rate** Higher than Hispanic but lower than African American women and American Indian women
- 5-Year Relative Survival Rate** Higher than all other ethnic groups

Breast cancer incidence and mortality rates for New Mexican non-Hispanic white women are comparable to those for white women nationwide. This ethnic group has the highest breast cancer incidence rate in New Mexico.

## Breast Cancer in Hispanic Women

<b>Incidence Rate</b>	Lower than non-Hispanic white or African American women  Increasing faster than other women
<b>Mortality Rate</b>	Lower than non-Hispanic white or African American women
<b>5-Year Relative Survival Rate</b>	Lower than non-Hispanic white women

New Mexican Hispanic women have lower breast cancer incidence rates than non-Hispanic white women but higher rates than American Indians. For 1993–98, the age-adjusted rate of breast cancer incidence for Hispanic women was 75 per 100,000 per year, as compared to the non-Hispanic white rate of 112.



Mammographic screening among New Mexico's Hispanic women has increased steadily: the NCI reports that nationwide the mammography rate for Hispanic women has surpassed that of non-Hispanic white women (NCI, 1996). Many barriers to screening remain, however, and not all Hispanic women are equally at risk. Women who do not use English as their primary language are among those at highest risk. This group overlaps with low-income women who are also less likely to have health insurance. Socioeconomic status is the most important barometer of screening usage for Hispanic women. Older, low-income Hispanic women in particular are less likely to be aware of their need for mammograms.

Other barriers such as embarrassment/modesty, and fear of cancer, also contribute to under-utilization of mammography. An awareness of primary language and level of acculturation, are important when planning organized efforts to increase mammography utilization among Hispanic women. A "family" focus approach on the benefits of mammography and inclusion of other social networks, respect for Hispanic traditional values, such as dignidad and respeto, are all known to positively influence the mammography behaviors of women among this population.

### Breast Cancer in American Indian Women

<b>Incidence Rate</b>	Lower than all ethnic groups
<b>Mortality Rate</b>	Highest of all ethnic groups
<b>5-Year Relative Survival Rate</b>	Lowest of all ethnic groups

American Indian women in New Mexico and tribal communities have extremely low rates of breast cancer incidence. The rates are about sixty percent lower than the rates for the state's non-Hispanic whites (in 1993–98, 43 cases per 100,000 per year among American Indians).

American Indians are the second fastest growing ethnic group in New Mexico, having the highest rate of natural increase. High parity and a young age at first childbirth are associated with decreased risk of breast cancer. The high birth rate in this group relative to non-Hispanic whites may be one factor explaining American Indian women's lower rate of breast cancer incidence.

American Indian women have the lowest rates of breast cancer incidence but also the poorest 5-year survival rates of all ethnic groups in New Mexico. Some cultural barriers to cancer prevention and cancer treatment include the belief among some groups that speaking of illness will cause the illness, that cancer is a communicable disease, and that a diagnosis of cancer is a

death sentence. In addition, it is often difficult for health care providers to serve this population. Many American Indians live on reservations or in other remote areas. They often lack phones, regular mail service, or reliable transportation. Making and keeping appointments can be a challenge for both patient and provider.

The New Mexico Breast and Cervical Cancer Detection and Control Program has been screening low income, uninsured and underinsured women since October 1991. Approximately half of the women screened through the program thus far have been American Indian women. Prior to the Breast and Cervical Cancer Detection and Control Program, screening mammograms were not available to American Indian women through the Indian Health Service. Since screening mammograms have been made available, the number of reported breast cancer cases in this population has increased at least two-fold.

## Men

Breast cancer is primarily a disease affecting women. Male breast cancer accounts for less than 1% of the overall incidence and mortality of this disease. In 1998, there were only 9 cases of breast cancer diagnosed in men in New Mexico. Even though men are at very low risk for developing breast cancer, they should be aware of risk factors, particularly family history of cancer or breast cancer. Men should report any change (such as tenderness or swelling) in their breast tissue to a physician.

## Older Women

In every ethnic group, breast cancer incidence and mortality rates increase significantly as women age. Breast cancer incidence increases after age 45, and 78% occurs in women over age 50. Older women are also at risk for under-utilizing breast cancer screening, especially if they are poor and/or Hispanic, American Indian, or African American.

Barriers to breast cancer screening for older women include low perceived susceptibility, lack of awareness of the disease, lack of recommendation by a health care provider, and limited access to mammographic screening.

**Low Perceived Susceptibility:** Most older women do not know that the risk of breast cancer increases with age. Almost 75% of women who receive a diagnosis of breast cancer have no risk factor other than age. *It may be useful for health care providers, as well as the educational materials they use, to state directly that women past menopause should have mammograms.*

**Early Detection:** Many older women do not recognize that mammograms are needed in the absence of symptoms. *Messages directed at older women should stress this fact.* Messages should also stress that mammograms are effective in detecting cancer early. This is important because older women are less likely than younger women to believe that mammograms are effective.

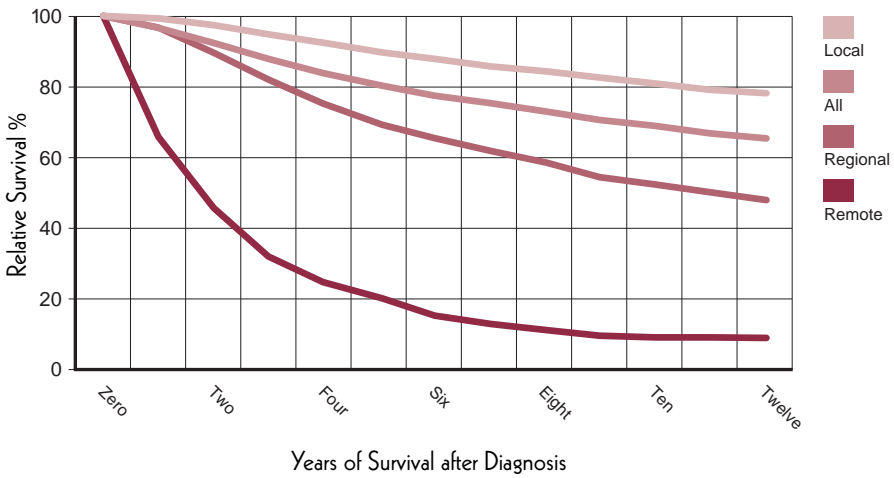
**Lack of Awareness:** Older women are less likely than younger women to be aware of mammograms. Older women are less likely to identify breast cancer as a primary health concern or to know any risk factors.

**Access:** Distance to radiology facilities and lack of transportation are important barriers for older women, particularly in rural areas. Much of New Mexico's population is rural.

In New Mexico various data sources place the mammography rate among older residents along a wide continuum. The most conservative estimate of 42.1% is based on a mammography claim paid within the two-year period under Medicare part B for 1997 and 1998. The upper limits are 82.5% and 88.9% for 1997 and 1998 respectively for women over age 65 according to the State's Behavioral Risk Factor Surveillance Survey (BRFSS, 2000).

According to a National Cancer Institute report, women age 65 and older still have misconceptions about the need for mammography. While increasing age is a known risk factor for breast cancer, women do not recognize this risk and become less concerned about breast cancer (NCI, Cancer Information Service 1999). "Women are also confused about how frequently mammograms should be performed and many, especially Hispanic women, are uninformed about Medicare's mammography benefit," states Margy Wienbar, a Quality Improvement Manager for the New Mexico Medical Review Association (NMMRA).

### Female Breast Cancer Survival Rates, New Mexico, 1973–98, by Stage at Diagnosis



New Mexico Tumor Registry, 2000.

The New Mexico Breast and Cervical Cancer Detection and Control Program can serve women over age 65 who do not have Medicare Part B for both screening mammography and cervical cancer screening. Patients must meet the financial guidelines of the program, which is 250% of poverty. For information, patients and providers may call toll-free at 1-877-852-2585.

More information about Medicare can be found on the Health Care Financing Administration website <http://www.hcfa.gov> or by calling 1-800-MEDICARE (1-800-633-4227).

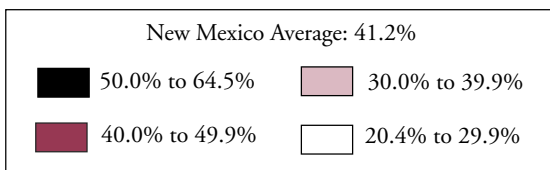
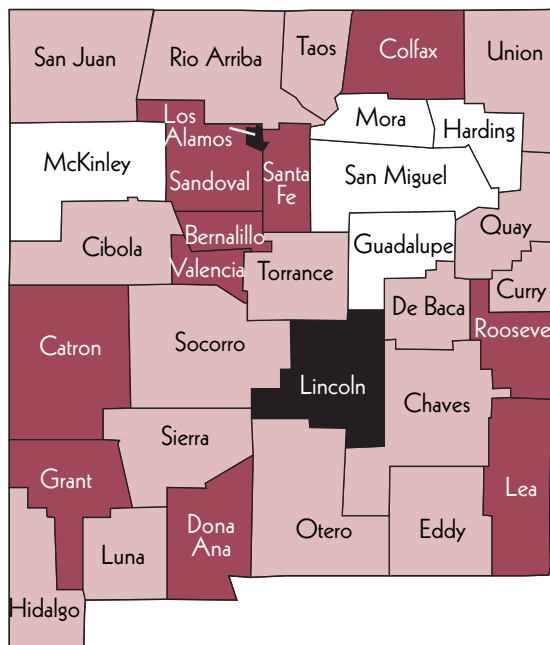
# Screening Practices

Early detection of breast cancer through various types of screening exams is essential to increasing survival from the disease, but much needs to be done to improve screening rates. Older women and women with lower incomes have lower screening rates. Health care providers may fail to recommend screening to patients. Women may not regard the tests as necessary. Perhaps most significant is that the lack of screening represents a lost clinical opportunity. **Most women who have not been screened have had recent contact with the health care system, but have failed to receive — or have not been referred for — screening.**

The 1997 Behavioral Risk Factor Surveillance Survey (BRFSS) for New Mexico shows that 65.1% of respondents over age 40 had a mammogram within the past 2 years. Overall, 81.4% of New Mexico women > age 40 have ever had a mammogram (CDC, 1999).

Substantial increase in mammography screening occurred for poor women as well as for women with family incomes at or above the federal poverty level. In *Health, United States: 2000*, the CDC reports that among women living below poverty thresholds in 1998, 53% reported a recent screening compared with 72% of women at or above poverty. CDC's National Breast and Cancer Early Detection Program provides mammography screening services to these underserved women.

## New Mexico Mammography Rates by County, Medicare Part B Claims Data, 1997–1998.



Source: Data Courtesy of New Mexico Medical Review Association July 2000

The rates above reflect only one source of payment and do not include the Indian Health Service, the Breast and Cervical Cancer Detection and Control Program, and many managed care organizations.



CHAPTER

# 3

# Breast Cancer Screening

Breast cancer screening is the periodic examination of asymptomatic women to detect breast cancer in its earliest stages. Screening includes mammography and clinical examination of the breasts. Health care providers recommend breast self-examination monthly to complement this program.

# Screening Guidelines

The American Cancer Society's current recommendations for breast cancer screening in asymptomatic women are:

- |           |   |
|-----------|---|
| Age 20–39 | Monthly breast self-examination (BSE), clinical breast exam (CBE) every three years |
| Age 40+   | Monthly BSE, annual CBE, and annual mammography                                     |

(Smith, 2000)

There is general consensus that routine screening every 1–2 years including mammography and CBE can reduce breast cancer mortality for women age 50 and older. There has been considerable controversy, however, over screening guidelines for women age 40–49. These are reviewed in this section beginning on page 32.

## Women Under Age 50

- Beginning at age 40, providers should talk to their patients about screening mammograms.
- Providers should discuss earlier screening for women with a genetic predisposition and a family history of breast cancer.
- A clinical breast examination is recommended annually.
- A lump should be investigated regardless of age.

# Breast Self-Examination

Breast self-examination (BSE) consists of a woman's systematic monthly inspection and palpation of her breasts to detect a change in one or both breasts. It is important for a woman to become familiar with the appearance and feel of her breasts so that any change is noticeable. No clinical trials have shown the efficacy of breast self-examination (Thomas, 1997) so there is insufficient evidence to recommend for or against the teaching of BSE.

Breast self-examination should be used in conjunction with a regular program of clinical breast examination. The National Cancer Institute, the American College of Radiology, and the American Cancer Society recommend breast self-examination as a low cost, non-invasive screening test and an appropriate adjunct to clinical breast examination and mammography.

Comprehensive education about breast self-examination includes:

- Providing information about normal breasts and the signs of breast disease
- Demonstrating the technique
- Observing the patient performing breast self-examination
- Reinforcing ongoing breast self-examination

## Frequency and Rationale

The American Cancer Society recommends monthly breast self-examination throughout a woman's life beginning at age 20.

Regular breast self-examination enables a woman to know her own breast tissue and to recognize changes more quickly.

### Breast Self-Examination Fast Facts

- Beginning at age 20, women need to do monthly breast self-examinations as part of their breast health program.
- When they find changes in their breasts, women need to notify their health care provider promptly.
- The **five Ps** of breast self-examination include position, palpation with pads, pressure, perimeter, and pattern (page 25).

## Timing

If a woman is menstruating, she should perform BSE on the last day of her period.

If a woman does not or no longer menstruates, she should perform BSE on the same day each month. Counsel non-menstruating patients to integrate BSE into another monthly event or routine.

## If a Woman Recognizes Breast Changes

If a woman recognizes a change in her breast(s) or is uncertain about something she feels in her breast(s), she should promptly contact her health care provider.

It is very important that a woman feel free to communicate her concerns to her health care provider. The patient needs to feel that she is listened to; that her questions are answered. She should realize that a second opinion is one of her options. She should feel comfortable and confident with the plan of action she and her health care provider develop, and her provider should be prepared to provide referrals for further information and support.

*Chapter 5 in this handbook lists organizations that provide information on breast cancer screening, diagnosis, and treatment, as well as various support groups.*

## Reinforcement

Give positive feedback as the patient performs BSE in the examination room. Reinforce any efforts the patient has made toward doing BSE, even if they are minimal. **Never chastise. Always encourage.**

**Important!**

## The “Five Ps” of Breast Self-Examination

- 1 Position:** While standing in front of a mirror, visually inspect the breast, three positions:
  - With arms relaxed at the side, looking straight ahead.
  - With hands at waist, rolling shoulders forward.
  - With arms straight up, bending forward slightly.
- 2 Perimeter:** Breast tissue extends beyond what is enclosed by the bra cup. The area to be examined extends from the sternum, across the clavicle, down the mid-axillary line, and along the bottom of the bra line.
- 3 Palpation with Pads:** The woman should use the pads of her three middle fingers. The pads provide a greater surface area than the fingertips and are more sensitive.
- 4 Pressure:** A woman will need to use varying levels of pressure in order to feel all the way through the breast tissue. In each spot, she should make three circles varying in pressure from light to medium to deep. This should not be painful but will allow her to feel through the tissue to the chest wall.
- 5 Pattern:** It is important to choose a pattern with which the health care provider and the patient are comfortable. Three patterns are commonly used though the vertical strip method is recommended (Barton, 1999):

- **Vertical Strip:** Begin in the axilla and move across the breast tissue in strips, moving up and down the breast.
- **Wedge:** Divide the breast into spokes, like those of a wheel. Examine each segment separately, moving from the outside edge to the nipple.
- **Circle:** Begin at the top (12 o'clock) and examine the breast in spiral fashion, from the outside edges toward the nipple. The circles get smaller moving inward.



# Clinical Breast Examination

A clinical breast exam (CBE) performed by a trained health care professional is an important technique in effective breast cancer screening (Barton, 1999). CBE practitioners should be attentive to their patients' modesty and privacy. These issues may be especially important for older (65+) patients and for women from minority ethnic groups.

The examination should be conducted in a setting allowing for minimal distraction and adequate privacy. Examination gowns should be adjusted to minimize the patient's exposure. Do not hurry the examination! A complete CBE should take from 5 to 10 minutes.

## Before the Examination

- Find out what concerns, fears, and/or barriers to consistent care the patient may have. Address concerns, such as fear of finding cancer, by emphasizing the high success rate of treatment **when cancer is detected early**.
- Determine where the patient is in her menstrual cycle and if her breasts are tender. Ask if she has any questions prior to beginning the CBE.
- Prompt the patient to tell you if she experiences pain during the examination.

## Breast Health History

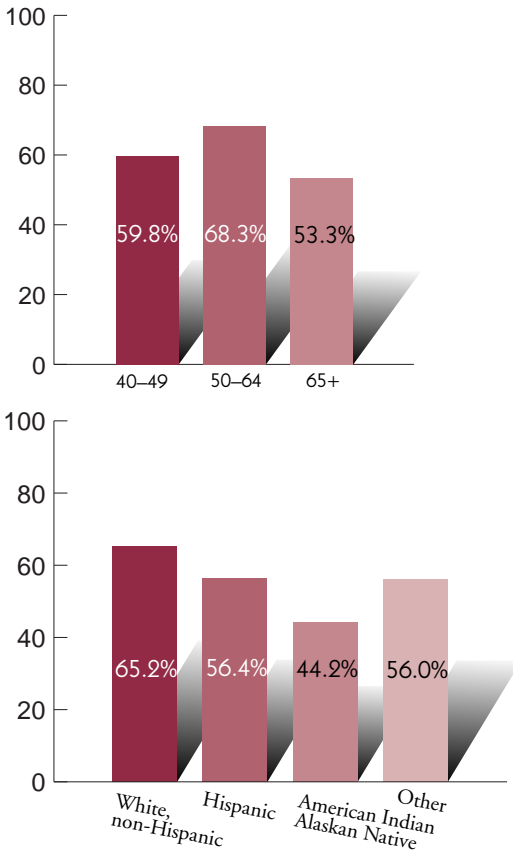
Breast health history should be part of the CBE and should include:

- Description of present breast symptoms — lumps, pain, nipple discharge, changes in shape, difference between breasts, cyclical tenderness, skin changes.
- Clinical history — age at first mammogram, date and result of last mammogram, location of last mammogram, and previous breast surgery (date, health care provider, location, biopsy results.)
- Review of family (mother, daughter, sister) history of breast cancer and age at first diagnosis.

## Frequency of CBE: Recommendations

The CBE should be performed yearly on all patients over age 40. The American Cancer Society recommends CBE every three years for patients age 20–40. The American Cancer Society (ACS), American College of Radiology (ACR), American Medical Association (AMA), American College of Obstetricians and Gynecologists (ACOG), and American Academy of Family Physicians (AAFP) recommend CBE yearly after age 40 (US Preventive Services Task Force, 1996). For patients in a high-risk group for breast cancer, yearly CBE should begin at age 30.

**Percentage of New Mexico Women in Selected Ethnic and Age Groups Who Reported Having a CBE within the Past Year, 1999.**



Source: New Mexico Behavioral Risk Factor Surveillance Survey, 2000.

## Technique

### Palpations

- Use three middle fingers, held together.
- Concentrate on palpating with the flats or pads of those fingers.
- The palpation motion should be of small circles, about the size of a dime. The circular motion should be smooth and well controlled.
- Use a series of three distinct pressures for each area of breast tissue examined. This translates into three circles of varying pressures for each area.
- Use very light pressure for the first circle at each area. Press midway down into the breast for the second circle. For the last circle, press into the breast tissue as firmly as possible without causing discomfort. This may allow more pressure than you realize.
- Always direct palpation pressure straight down, against the plane of the patient's chest wall.

### The Search Strategy

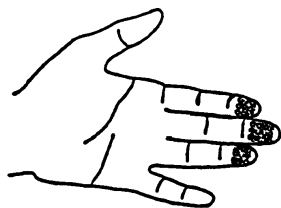
To distribute breast tissue as evenly as possible, position the patient on her side to examine lateral breast tissue and supine to examine medial breast tissue.

Breast tissue to be examined is within a roughly rectangular area. This rectangle begins laterally with the mid-axillary line and is bounded by the clavicle, the sternum, and (approximately) the fifth rib. Examine all tissue within this rectangle thoroughly.

The recommended search pattern involves arranging palpations in vertical strips, transversing the entire breast area. Overlap palpations and strips slightly to ensure thorough examination of all tissue.



## Finger Techniques for CBE



- A** Use the pads of the three middle fingers.



- B** At each spot, make three small circles about the size of a dime.

- C** Use light pressure for the first circle.



- D** Use medium pressure for the second circle.



- E** Use deep pressure for the third circle.



## Components of the CBE

### With the patient sitting:

- ⊙ Inspect for asymmetry, abnormal superficial vascular patterns, dimpling, nipple retraction, and peau d'orange.
- ⊙ Palpate axillary and supraclavicular/infraclavicular nodes. Note size, location, mobility, and consistency of nodes palpated.

### With the patient supine:

- ⊙ Inspect and palpate.

## Patient Education

Provide written materials to the patient. These should include recommendations for BSE, CBE, and mammography. It is important that these materials discuss the following limitations of screening:

- Normal results on a screening examination do not necessarily indicate absence of disease.
- No screening test is 100% accurate. Therefore, some cases of breast cancer may be missed.
- Normal results do not rule out later development of breast cancer, which is why annual screening is strongly recommended.
- Detection of an abnormality does not mean cancer. Approximately **10% of patients with abnormal screening results** will be diagnosed with breast cancer after further evaluation.

Written materials should be available in the language used by the patient. **Also, since some patients do not read**, health care providers should be prepared to communicate each of these limitations verbally and refer patients to an organization such as the Cancer Information Service (p. 53) that can provide information over the phone.

# Mammograms

Mammography is the most effective method for detecting early stage breast cancer. Despite the recent controversies over the efficacy of screening mammography for various age groups, there is scientific consensus that routine screening mammography can reduce breast cancer mortality by one-third for women age 50 and older (US Preventive Services Task Force, 1996).

## Types of Mammograms

### Screening Mammography

This is a radiologic exam to detect unsuspected breast cancer at an early stage in asymptomatic women. A mammogram is usually designated “screening” if the patient is scheduling a routine or annual examination or if she has fibrocystic changes. The intent of screening mammography is to determine whether the patient has a low or high probability of getting breast cancer. *The exam may be performed without a physician in attendance.*

The examination should ordinarily be limited to craniocaudal and mediolateral oblique views of each breast. On occasion, supplementary views may be required to visualize breast tissue optimally, but such views should not be obtained routinely. Where pathology is suspected, a recommendation for additional imaging studies, a diagnostic mammogram, or a biopsy may be warranted.

### Mammography Fast Facts

- A mammogram is a safe, low-dose x-ray.
- Mammograms may detect cancer or a mass 2–3 years before it can be felt.
- Twenty percent of women with breast cancer will have a normal mammogram.
- Patients with breast augmentation should obtain instructions from their health care providers regarding mammography.

### Diagnostic Mammography

This is a radiologic exam to evaluate a patient with a breast mass, other signs or symptoms, an abnormal or questionable screening mammogram, or augmented or reconstructed breasts. The mammogram should be correlated with known physical findings and symptoms. Multiple views may be indicated.

The diagnostic mammogram may indicate a need for additional imaging modalities in some patients. *Diagnostic mammograms should be performed under the direct on-site supervision of a qualified radiologist.*

## Prior to Mammogram

If this is the patient's first visit to the mammography facility, existing patient films available elsewhere should be requested for comparative analysis. In addition, CBE results should be forwarded to the mammography facility.

Refer patients with breast implants to a radiologist with experience in performing mammography on these women.

## Screening Guidelines for Asymptomatic Patients

### Patients Age 40–49

**Assess for personal risk factors.** Patients in a high risk group may benefit from yearly screening. Characteristics which may increase risk include:

- Personal history of breast cancer
- Family history of breast cancer (first degree relative — mother, daughter, or sister — with premenopausal breast cancer)
- Biopsy-proven moderate, severe, or atypical epithelial hyperplasia (especially in combination with a positive family history)
- Ductal carcinoma in situ
- Nulliparity or age 30 or older at first live birth

Since the “one in eight” risk (one woman in eight will be diagnosed with breast cancer) for women is based on data from all women and includes assorted risk factors, additional risk factors cannot be reliably summed when calculating a patient's risk of developing breast cancer.

Health care providers may want to discuss biannual mammographic screening for patients in lower risk categories.

### Patients Age 50 and Older

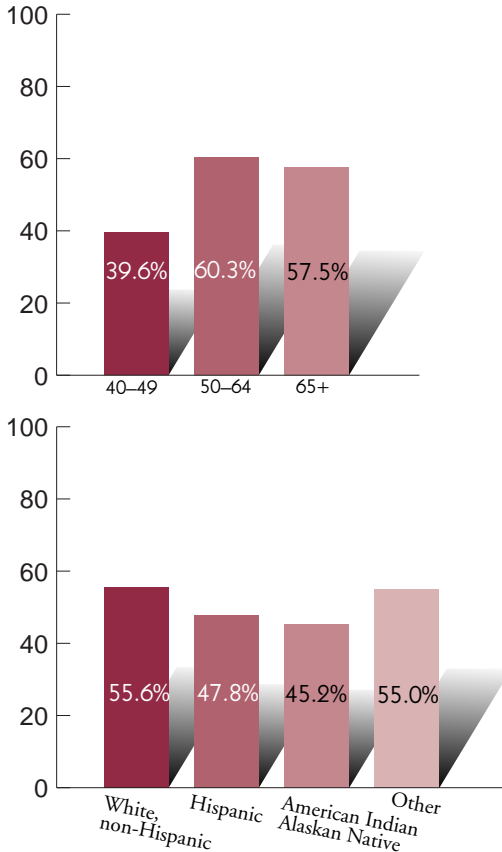
The American Cancer Society (ACS), American College of Radiology (ACR), American Medical Association (AMA), American College of Obstetricians and Gynecologists (ACOG), American Academy of Family Physicians (AAFP), and others recommend an annual bilateral screening mammogram for patients age 50 and older. The American College of Physicians (ACP) recommends screening mammography every two years

for women age 50–74. The National Cancer Institute (NCI) states that there is “a general consensus among experts that routine mammography and CBE every 1–2 years in women age 50 and older can reduce breast cancer mortality.”

## Which Women Need Screening Mammograms?

**Beginning Screening:** There is agreement regarding the benefits of screening women 50 years of age and older, but there has been a lack of consensus about the effectiveness of mammography in decreasing cancer mortality for women age 40–49.

Percentage of New Mexico Women in Selected Ethnic and Age Groups Who Reported Having a Mammogram within the Past Year, 1999



Source: New Mexico Behavioral Risk Factor Surveillance Survey, 2000.

The data from population-based randomized trials of screening have been limited by retrospective subgroup analysis, low statistical power, and the use of older mammographic techniques. Recent meta-analyses include the most recent data from all similarly designed trials and include two second generation trials, i.e. Gothenberg and Malmö, which applied newer screening protocols and observed 44% and 36% fewer breast cancer deaths respectively in the invited groups compared to the control groups (Hendrick, 1997 and Taber, 1997).

As a result of this controversy, several respected organizations are at odds with one another over what to recommend for this age group.

A consensus panel convened in 1997 by the National Institutes of Health concluded that evidence at that time did not warrant an official recommendation that women 40–49 years be screened (Lawson, 2000). The NIH based its conclusion, in part, on data showing mammography did not detect one in four breast cancers among women in that age group, and research indicated a higher false-positive rate in younger women. Critics expressed concern that this data came from studies using older technology and questioned some of the methodology.

Conference data also showed that women screened for breast cancer between ages 40–49 and followed for more than seven years had a lower mortality rate from breast cancer than women who were not screened.

Based on the evidence presented, the National Cancer Institute adopted its own recommendation that all women 40 and older have mammograms every 1–2 years. The American College of Radiology and the American College of Obstetricians and Gynecologists concur. The American College of Physicians, the US Preventive Task Force, and the American Academy of Family Physicians, however, feel there is insufficient evidence to recom

mend for or against screening women 40–49.

**Concluding Screening:** Because breast cancer incidence increases with age, the burden of suffering due to breast cancer in older women is substantial. No reliable data are available on the optimal age to conclude mammography screening. There are uncertainties about a mammogram's effectiveness in asymptomatic women over age 70 with consistently normal screening results (Kerlikowske, 1999). In this study, the authors found an increased cost effectiveness in women with higher bone mineral density (a marker for lifelong exposure to estrogens.)

## The US Preventive Services Task Force concludes:

*There is limited and conflicting evidence regarding clinical benefit of mammography or CBE for women age 70–74 and no evidence regarding benefit for women over age 75; however, recommendations for screening women age 70 and older who have a reasonable life expectancy may be made based on other grounds, such as the high burden of suffering in this group and the lack of evidence of differences in mammogram test characteristics in older women versus those age 50–69.*

US Preventive Services Task Force, 1996

Since January 1, 1998, Medicare has covered annual mammograms for women aged 40 or older who have Medicare Part B. Medicare will waive the Part B deductible for screening mammograms, but beneficiaries are still responsible for the 20% co-payment, which amounts to \$15–\$25.

The following are three categories of billing for mammography services:

- Professional component of mammography (a physician's interpretation of the results of the examination).
- Technical component (all other services).
- Global (both professional and technical). Please note: global billing is not permitted for services furnished in provider outpatient departments.

When the technical and professional components of the screening mammogram are billed separately, the payment limit is adjusted to reflect either the professional or technical component only.

For the year 2000, the global billing limitation is \$67.81. The technical and professional component amounts are set forth by regulations. For the calendar year 2000, 32% of the limit is used in determining the professional component (32% of \$67.81 or \$21.69). For the technical component, 68% of the limit is used in determining payment (68% of \$67.81 or \$46.12).

Medicare also helps pay for diagnostic mammograms for Medicare Part B beneficiaries of any age. Diagnostic mammograms are covered under Medicare as prescribed by the physician at a maximum payment of \$85.12. All other diagnostic procedures that are deemed reasonable and necessary are covered services. For all diagnostic procedures, the deductible and co-payments do apply.

For older women who do not have Medicare Part B, there are several options that can help them gain access to screening mammography and other services.

**Specified Low-Income Medicare Beneficiary Program (SLMB).** This program waives the annual premium amount for Medicare Part B which covers outpatient services, such as breast cancer screening for beneficiaries whose income is at or up to 120% of the federal poverty level.

**Qualified Medicare Beneficiary Program (QMB).** This program waives the premium, co-payments and deductible for beneficiaries whose incomes are at or below the federal poverty level.

Both of these programs require the beneficiary to make an application to the state's Medicaid system and have contact with a state Medicaid worker.

## Responsibilities of the Referring Health Care Provider

Federal guidelines provide a step-by-step outline of the responsibilities of physicians and other members of the health care team in providing high quality mammograms. Under these guidelines (Agency for Health Care Policy and Research, 1994), referring health care providers are responsible for:

- Informing patients that mammography is the most sensitive and specific screening test available for breast cancer.
- Informing patients that a negative mammogram does not rule out malignancy in the presence of a palpable mass or other breast abnormality and that a biopsy of an abnormality may be necessary despite a negative mammogram.
- Explaining that a lump or other abnormal finding which develops after a negative screening examination should be evaluated as soon as possible and not delayed until the next regular screening examination.
- Establishing protocols with the mammography facility to ensure that the communication loop is closed and that the roles of the referring health care provider and the facility in communicating results and tracking compliance are understood by each party.

## Choosing a Mammography Facility

### Quality Assurance

With women encouraged to obtain screening, health care providers have a responsibility to ensure that mammography poses a low radiation risk and is of optimal quality. Furthermore, health care providers must ensure that all aspects of mammography—including personnel involved in positioning patients and interpreting films, reports, and clinical outcomes of positive mammograms — are part of an overall chain of quality assurance.

**Federal law** requires that all mammography facilities in the United States (except those of the Department of Veterans Affairs) be FDA certified.

The Mammography Quality Standards Act (MQSA) of 1992 authorized the Food and Drug Administration (FDA) to establish nationwide baseline quality standards. The MQSA standards are very similar to those of the American College of Radiology and of certain states. The MQSA provides on-site inspection and enforcement of mammography facilities. The MQSA standards are intended to provide universal access to quality mammography.

The regulations require that all facilities which provide, process, or interpret mammograms meet standards. These include standards for personnel engaged in mammography, including the interpreting physician, the medical physicist, and the radiologic technologist. The regulations require these health care professionals to have licenses, be board certified or have specified training in mammography, meet minimum practice requirements, and receive continuing education. MQSA also requires facilities to report the results of the examination to patients in easily understood terminology.

In addition, the facility must use only dedicated mammography x-ray machines. These machines must have a compression device and removable grids (except in xero-mammography machines).

Each facility needs to maintain a quality control and quality assurance program on all radiographic equipment (processors, films, and image receptors). A written report of results must be signed by the interpreting physician and sent to the referring health care provider.

Finally, the mammography facility must have a system of reviewing outcome data from all mammograms performed, including the follow-up of positive mammograms and correlation of surgical biopsy results with mammography reports.

The New Mexico Mammography Project (NMMP), funded by the National Cancer Institute, provides feedback to radiologists on the accuracy and quality of their data for those who participate in the project. Mammography data can be linked to the New Mexico Tumor Registry which can help identify false-negative mammograms. This population-based registry includes ascertainment of a majority of screening mammograms performed in New Mexico and information on breast cancer cases and benign breast tumors. For more information on this project, contact Robert Rosenberg, MD, Director of Diagnostic Imaging at the University of New Mexico or Project

C o o r d i n a t o r  
Patricia Stauber at  
(505) 272-6866.

Mammography facilities must prominently display a certificate or provisional certificate issued by the FDA. A provisional certificate will be issued to a facility which has applied to a private or state accrediting body for accreditation but has not yet received it.

**Cost Considerations**

In addition to quality, another consideration in selecting a mammography facility is cost. Most mammograms cost between \$50 and \$150. More than 40 states, **including New Mexico**, now have laws requiring health insurance companies to reimburse some of the cost of screening mammograms. Medicare covers most of the cost of screening mammography.

Since 1991, the Centers for Disease Control and Prevention (CDC) has provided federal funding for New Mexico's Breast and Cervical Cancer Detection and Control Program. Free breast cancer screening for low income and age eligible women is provided in all counties and by the Indian Health Service (IHS). **The Breast and Cervical Cancer Detection and Control Program has provided over 71,000 mammograms as of December 1999.** Unfortunately, available funding serves only a portion of the eligible New Mexico women.

The Breast and Cervical Cancer Detection and Control Program has a 24-hour, bilingual, toll-free information line. People can call to get the name and phone number of a Breast and Cervical Cancer Detection and Control Program provider located nearest to them. That toll-free line is 1-877-852-2585.

Some health service agencies and employers provide mammograms free or at low cost. Low cost does not equate with low quality. A large national survey found that some of the facilities charging the lowest fees (often because of the large volume of patients) had the highest quality standards for mammographic screening (Breen and Brown, 1994).

### For Patients with Implants

Choosing a mammography facility and mammographic techniques for patients with breast implants requires special attention. Mammography of patients with breast implants should always be considered diagnostic, even if patients are asymptomatic. Diagnostic mammography of patients with breast implants requires special handling and positioning. Four views of each breast, rather than two, should be taken.

Although unsuspected breast cancer can be detected on mammograms of patients with implants, mammography is more difficult to perform. Mammography has not been proven effective for breast cancer detection when implants have been used for breast reconstruction after total mastectomy. Regular clinical breast examinations should be performed in these cases.

Mammography of asymptomatic patients with breast implants should include both implant-included and implant-displaced views whenever possible. In the implant-displaced views, the radiologic technologist manually displaces the implant toward the chest wall while bringing breast tissue forward so that it can be adequately compressed. This maneuver results in an improved image of anterior breast tissue (Agency for Health Care Policy and Research, 1994).

## Future Considerations

### MRI

Magnetic Resonance Imaging (MRI) uses magnetic fields to produce sharp contrasted images of glandular tissues and tumors. Before the examination, an intravenous contrast dye is injected that highlights breast blood supply and new blood vessel formation in cancerous lesions. With this technology, both breasts can be imaged at the same time. MRI can detect lesions that were missed by mammography and it is not affected by dense tissues and

implants. However, it can be difficult to distinguish benign and malignant lesions. A new technology called *three-dimensional rotating delivery excitation off-resonance imaging (3D Rodeo MRI)* provides 20 times higher resolution and better contrast than conventional MRI. Drawbacks include cost, special equipment, and expertise only available in selected areas. MRI shows most promise for patients with dense breasts, with implants, and patients at high risk for breast cancer.

## PET Scans

Position Emission Tomography (PET) scans identify changes in the cell's glucose metabolism instead of in the breast tissue structure itself. PET scans cannot accurately detect masses smaller than 1 cm and cannot exactly locate the tumor within the breasts. A major drawback is cost, as well as false-positive results. Most promising is this technique's capacity to see through very dense breasts and to locate tumors missed by mammography. PET scans can also identify metastases in the lymph nodes and the entire body.

## Digital Mammography

Computer assisted digital mammography is a new variation of conventional mammography. X-rays are still used, but they are captured digitally and transmitted to a computer screen, rather than onto x-ray film. Digital images can be stored and transferred electronically. The digital images can also be manipulated so that the radiologists can more clearly distinguish between the dense breast tissue and a mass. The ability to manipulate the image lessens the chance a woman will need additional x-rays. This technique is not likely to be used for routine screening until the results of studies which compare it with conventional mammography are available. Digital mammography should improve image quality with less radiation exposure. An additional advantage with digital mammography is that there is no need to process films, and images can be sent by computer to specialists who can provide immediate consultation.

## Ultrasound

Breast ultrasound is widely used as an adjunct to mammography to differentiate between cystic and solid masses. The technique is a good alternative to mammograms for pregnant women. Ultrasound is also useful during biopsy to help guide the biopsy needle. High definition imaging digital ultrasound (ALT™) is an adjunct to mammography. This new procedure may assist in distinguishing benign from malignant lesions and may be more sensitive than current ultrasonography.

CHAPTER

# 4

## Diagnosis and Referral

An abnormal clinical breast screening examination or mammogram should generate a referral to a surgeon or physician with expertise in breast problems. A normal mammogram does not rule out cancer if a patient has a mass discovered through clinical breast examination.

# Management of Palpable Masses

## Solitary, Well-Defined Palpable Mass

Patients with discrete palpable masses should be referred to a surgeon or a physician with expertise in breast evaluation.

It is appropriate to order a diagnostic mammogram concurrently with referral to a surgeon for a patient over 35 years of age with a palpable mass. The mammogram will define characteristics of the mass and look for non-palpable synchronous lesions in either breast. Even if the mammogram is negative, the patient with a palpable mass should still be referred for further evaluation.

Fine needle aspiration (FNA), core biopsy and open excisional biopsy are among the options available to the consultant for further work-up of the mass.

Most palpable masses are removed regardless of a patient's age. This applies both to lesions suspicious for cancer and to lesions thought to be benign. If a lesion appears benign on a mammogram and FNA/biopsy, a patient in consultation with her health care provider may elect to have the mass removed or to be followed closely without removal. For many patients, a mass may cause continued concern and anxiety if it is not removed. Other patients may choose to monitor a mass that appears benign rather than to have it immediately removed.

Many "palpable masses" perceived by the patient are not considered palpable masses by the health care provider or surgeon. The range of abnormalities which women feel and call a "palpable mass" is wide. The health care provider may feel this area only as slightly lobulated breast tissue (particularly when the exam is before menstruation); as an area of diffuse poorly defined thickening which may or may not match in the opposite breast; or as an area of irregularity or prominence (such as nodular breast tissue).

If the provider does not feel a dominant mass, but the patient remains concerned or anxious, it is sound practice to advise her to return monthly or bi-monthly for re-examination until she is reassured of the benign and functional nature of the changes. In menstruating patients, time return visits between menstrual cycles (1–2 weeks after the menses is completed). If significant doubt exists in the patient's or physician's mind about the

nature of a non-discrete “mass” the patient may be referred to a surgeon or physician with expertise in breast evaluation for a second opinion.

Discomfort and pain are not reasons to assume that the lesion is benign. While painful or tender areas in the breast are usually functional in nature, health care providers should exercise caution to avoid being falsely reassured, as some malignant lesions may cause pain and tenderness.

## Cysts

It is difficult to assess whether a mass is cystic or solid by palpation alone. Fine needle aspiration or ultrasound may be helpful in identifying a cystic lesion.

If the primary care physician does not routinely perform aspirations, referral to a surgeon is appropriate. If a cyst is aspirated and the fluid is non-bloody, the patient should be re-examined for cyst recurrence at approximately 4 to 6 weeks. Rapid recurrence of a cyst after aspiration should lead to surgical referral. Routine ultrasonography is not indicated in such patients. Ultrasound is most useful if there is an abnormality detected on the mammogram which is not palpable. Ultrasound can help determine if the lesion is cystic or if it is solid.

If a patient is over age 40, obtain a mammogram prior to cyst aspiration. A cyst aspiration can make interpretation of the mammogram difficult, particularly if a hematoma develops.

If the mass does not disappear completely with aspiration or if the aspirated fluid is grossly bloody, the fluid should be sent for cytologic analysis and the patient referred to a surgeon. Cyst fluid does not otherwise need to be analyzed.

## Solid Masses

If no fluid is obtained on aspiration or if the ultrasound does not show a cyst, the mass is most likely solid.

Solid masses require further evaluation by a surgeon. Options for further work-up include core biopsy and excisional biopsy. Choice of work-up is determined by the surgeon and may be influenced by the patient's age, degree of suspicion for cancer and personal preference.

## Vague Thickening or Nodularity Not Suspicious of Cancer

For premenopausal patients with thickening or nodularity, re-examine at mid-cycle after one or two menstrual cycles. If a localized area remains abnormal after two examinations, refer to a surgeon.

Questionable areas in a postmenopausal patient, including those postmenopausal patients on estrogen replacement, should lead to a referral to a surgeon for consideration of fine needle aspiration or biopsy. The role of fine needle aspiration under these circumstances has not been completely established. Referral to a surgeon is the preferred approach.

It is appropriate to order a diagnostic mammogram before referral to diagnose synchronous lesions in any patient over age 35 that has not had a mammogram within 6 months to a year.

## Nipple Discharge or Skin Changes

The nature of the nipple discharge should be defined by a careful history. A patient with a spontaneous, unilateral clear, serous, or bloody discharge should be referred to a surgeon. Cytologic analysis of nipple discharge is rarely useful and should not be performed.

Bilateral multiple duct discharge is almost always benign. Medical work-up of galactorrhea may be appropriate for profuse, persistent milky discharge, but pituitary adenomas are rare.

Patients with skin breakdown on the nipple-areola complex should be referred to a surgeon. Biopsy of the nipple may be indicated to differentiate eczema or other dermatological conditions from Paget's disease.

## Breast Pain

Breast pain, in the setting of a negative physical examination and mammogram, is most likely due to fibrocystic or functional changes. An explanation of the role of hormonal cycling will reassure most patients. A trial of non-narcotic analgesics such as acetaminophen, aspirin, or ibuprofen and the use of a bra which provides good support are suggested. Elimination of caffeine, chocolate, or salt from the diet has not been found to be beneficial in scientific studies. However, some patients report a decrease in cyclical pain with reduction of caffeine, and this may be suggested. There is no role for male hormones or vitamin therapy. Refer to a surgeon if there is persistence of localized pain not responsive to conservative measures.

# Management of Non-Palpable Masses

The American College of Radiology designates five categories for mammogram reports. These include:

- I. Negative
- II. Benign Finding
- III. Probably Benign or Equivocal
- IV. Suspicious Abnormality
- V. Highly Suggestive of Malignancy

A patient whose mammogram is read as a I or II requires a follow up screening mammogram at the normal interval, usually in 1–2 years depending on the patient's age. If the mammogram reading is equivocal (III) and the radiologist recommends follow-up versus biopsy, refer to a surgeon or physician who is experienced in breast evaluation. If further mammographic evaluation with spot compression, magnification, or ultrasound is suggested, it is appropriate to obtain these prior to a referral since many equivocal mammographic abnormalities may be resolved with additional radiological work-up. A patient whose mammogram is read as IV or V requires immediate referral to a surgeon for biopsy.

An indeterminate or incomplete screening assessment (Category O) may be reported. Additional evaluation is then recommended before a final opinion can be rendered. An incomplete assessment always requires further action on the part of the patient and the health care provider.

## Non-Palpable Cysts

Non-palpable cysts detected by mammography and confirmed by ultrasound as simple cysts (i.e., without debris or ragged walls) need not be aspirated except for relief of pain. A presumed non-palpable cyst found by ultrasound to have suspicious characteristics should be subjected to directed biopsy or aspirated with sonographic guidance. The primary role of ultrasound is to determine the nature (cystic versus solid) of a non-palpable lesion found on the mammogram.

## Non-Palpable Masses

A decision about what method of evaluation or biopsy is most appropriate for any given non-palpable lesion discovered by mammography or ultrasound should be made by the surgeon in consultation with the radiologist. Options include:

- Mammographic or ultrasound guided fine needle aspiration biopsy
- Stereotactic core needle biopsy
- Large core biopsy or open surgical biopsy after needle localization

## Special Considerations

### Pregnant or Lactating Patients with Breast Masses

Physical diagnosis of breast cancer may be extremely difficult during pregnancy or lactation. It is important to refer pregnant women with a breast mass to a surgeon. Approximately 1 in 2,000 pregnant or lactating women has breast cancer.

### Persistently Worried Patient with a Negative Work-Up

It is appropriate to refer a persistently worried patient to a surgeon for a second opinion. Further educational resources and support organization referrals may also be offered (see Chapter 5).

CHAPTER







# 5

## Resources for Information and Referral

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# Support Groups and Health Care Information Services for Women with Breast Cancer

## The American Cancer Society (ACS)

-  Toll-free number: 1-800-ACS-2345
-  Website: [www.cancer.org](http://www.cancer.org)
-  Tel: (505) 260-2105
-  Addr: 5800 Lomas Blvd. NE, Albuquerque, NM 87110
-  Tel: (505) 988-5548
-  Addr: 839 Paseo de Peralta, Suite H, Santa Fe, NM 87501

The American Cancer Society is the nationwide, community-based, voluntary health organization dedicated to eliminating cancer as a major health problem by preventing cancer, saving lives and diminishing suffering from cancer, through research, education, advocacy, and service.

The American Cancer Society offers a variety of services to cancer patients and their families. ACS also helps women with breast cancer through various patient services, which offer emotional support.

### Patient Services

**Road to Recovery:** Volunteer drivers provide transportation to doctor's appointments and cancer treatments, providing access to medical care for elderly and disabled patients.

**Look Good Feel Better:** Women with cancer learn make-up and skincare techniques to offset the effects of chemotherapy and radiation, resulting in increased self-confidence and knowledge of self-care.

**I Can Cope:** Quality-of-life classes, including care-giving, medication and treatment options and resource availability, help to strengthen the emotional status of cancer patients and their families.


**Reach to Recovery:** Breast cancer survivors provide one-on-one support to women facing breast cancer and to those who have had breast surgery to increase their ability to cope, manage illness, and to maintain work and family roles.


**Gift/Loan Items:** Items, such as wigs, hats, turbans, and ostomy supplies are available to cancer patients to help enhance their quality of life.

**Cancer Information & Referral:** Brochures, general and site-specific cancer information, and employment and insurance issues often faced by cancer patients and their families, are available to individuals, services organizations and medical facilities. Your local American Cancer Society office also can provide local referrals to other services.

Call the Albuquerque or Santa Fe office for information about services and support groups in your city or county.


## ENCORE <sup>Plus</sup>


 Tel: (505) 254-9922


 Addr: YWCA, 303 San Mateo NE, Albuquerque, NM 87108


ENCORE <sup>Plus</sup> (Encouragement, Normalcy, Counseling, Opportunity, Reaching Out, Energies Revived) is a program sponsored by the YWCA (Young Women's Christian Organization) and Avon Breast Cancer Crusade and United Way of Central New Mexico to provide information about breast and cervical cancer screening services in New Mexico. The program includes one-on-one counseling, referral and support for screening mammography or diagnostic screening. For further information, call the Albuquerque number above, or consult the local YWCA listed in your phone book.


## People Living Through Cancer (PLTC)

 Tel: (505) 242-3263

 Toll-free number: 1-888-441-4439

 Fax: (505) 242-6756

 Website: [www.pltc.org](http://www.pltc.org)

 Addr: 323 Eighth Street SW, Albuquerque, NM 87102

PLTC was founded by and for those coping with a cancer diagnosis or the cancer of a friend or loved one. PLTC's breast cancer resources include:

- *Peer support groups* for survivors and family members
- *One-to-one matching* with others who have had breast cancer or have similar concerns
- *Living Through Cancer Journal*, a quarterly publication
- *Training* for those wishing to improve their skills at giving support
- *The largest cancer-related library for health care consumers in New Mexico*

- *Telephone “Lifeline”* offering immediate support, information and referrals
- *Annual statewide survivorship conference*
- *The New Mexico Breast Cancer Coalition*

PLTC includes Hispanic, American Indian, and African American breast cancer survivors serving their communities.

## **The Cancer Research and Treatment Center (CRTC) UNIVERSITY OF NEW MEXICO HEALTH SCIENCES CENTER**





- ☎ Tel: (505) 272-4946
- ☎ Statewide toll-free number: 1-800-432-6806
- 📍 Address: 900 Camino de Salud NE, Albuquerque, NM 87131-5306

The CRTC is New Mexico’s only cancer center formally recognized by the NCI. The CRTC serves the entire state and the Navajo Nation. Breast and cervical cancer are the focus of much ongoing research and clinical activity at the CRTC:

- The New Mexico Tumor Registry, a department of the CRTC, monitors cancer incidence rates statewide and serves as one of the NCI’s resources for data on cancer incidence in American Indian and Hispanic populations.
- The CRTC conducts 138 ongoing clinical trials, serves more than 30,000 patient visits per year for the statewide population and provides indigent care at a cost of more than \$3.4 million annually, for which the CRTC receives no reimbursement from any source.
- The CRTC offers the state’s most comprehensive cancer diagnosis and treatment services, including specialty clinics for breast, prostate, skin, orthopedic, gynecologic, neurologic, pulmonary and thoracic cancers.
- The CRTC offers familial cancer genetics information.

For more information on the clinical trials, call (505) 272-3839 or 1-800-432-6806.

## The New Mexico Breast & Cervical Cancer Detection and Control Program (B&CC Program)

-  Tel: (505) 841-5860
-  Statewide toll-free number: 1-877-852-2585 (Spanish & English)
-  Fax: (505) 841-5865
-  Addr: 625 Silver SW, Suite 203, Albuquerque, NM 87102

The New Mexico Department of Health Breast and Cervical Cancer Detection and Control Program endeavors to increase screening, early detection and follow-up care among low income, high risk women, particularly minority and older women. The B&CC Program provides evaluation, follow-up, and promotes increased public knowledge and awareness about breast and cervical cancer. Professional education is also an important component of the B&CC Program.

All counties in New Mexico and the Indian Health Service (IHS) provide free breast cancer screening for income and age eligible women. The B&CC Program has provided over 71,000 mammograms as of December, 1999.


For information about eligibility requirements and referral to a local B&CC Program provider, call toll-free 1-877-852-2585. Information about the B&CC Program is available on the Internet at the New Mexico Department of Health website: [www.health.state.nm.us](http://www.health.state.nm.us) or [www.cancernewmexico.org](http://www.cancernewmexico.org).


## National Alliance of Breast Cancer Organizations (NABCO)


-  Tel: (212) 719-0154
-  E-mail: [NABCOinfo@aol.com](mailto:NABCOinfo@aol.com)
-  Website: [www.nabco.org/](http://www.nabco.org/)
-  Addr: 9 E 37th Street, 10th floor, New York, NY 10016


NABCO is a non-profit central resource for information about breast cancer and is a network of more than 370 organizations which provide women with cancer detection, treatment, and care. NABCO can provide information about local support groups.

## National Lymphedema Network (NLN)

 Tel: (510) 208-3200

 Fax: (510) 208-3110


 E-mail: [nln@lymphnet.org](mailto:nln@lymphnet.org)


 Addr: 1611 Telegraph Ave, Suite 1111, Oakland, CA 94612-2138


The NLN is a non-profit resource center established to provide information and guidance to women and their health care providers about primary and secondary lymphedema and other venous disorders. Services the NLN provides include:

- A toll-free hotline (1-800-541-3259) to give emotional support, education, and referrals to health care professionals, treatment centers, support groups, and exercise programs throughout the United States
- A quarterly newsletter: [www.lymphnet.org](http://www.lymphnet.org)

## The National Coalition for Cancer Survivorship (NCCS)

 Tel: 1-888-650-9127

 Fax: (301) 565-9670

 Addr: 1010 Wayne Ave., Suite 770, Silver Spring, MD  
20910-5600

The NCCS is a network of cancer survivors and their organizations across the United States. The NCCS helps cancer survivors and their families start local support groups or contact existing ones, sponsors a clearinghouse of national resources for support and information on life after a cancer diagnosis, provides advice to reduce cancer-based discrimination, and serves as a unified voice of cancer survivors. To find a local NCCS group, contact the national office at the above number.

# Additional National and State Resources

Health care providers may want more general information for themselves, their patients, and their patients' families. The services listed below will help them obtain what they need. Additional information is available from local libraries, bookstores, and support groups.

The National Cancer Institute (NCI), one of the National Institutes of Health, supports the following services: the Cancer Information Service, CancerFax, Physician Data Query, and CancerNet. These and other resources are highlighted below.

## Cancer Information Service (CIS)


 Tel: 1-800-4-CANCER (1-800-422-6237)

The CIS provides a nationwide telephone service for cancer patients and their families, the public, and health care professionals. CIS can provide specific information in understandable language about particular types of cancer as well as information on state-of-the-art care and the availability of clinical trials.

Callers' questions are answered by Certified Information Specialists trained by the NCI. Bilingual information specialists are available. CIS offices can be reached anywhere in the country by dialing 1-800-422-6237, Monday through Friday, 9 a.m. to 4:30 p.m. local time. Persons with TTY equipment can call 1-800-332-8615 for cancer information.

The CIS also coordinates state and regional outreach and cancer education efforts of the NCI.

## CancerFax

 Tel: (301) 402-5874

The NCI's CancerFax service provides up-to-date cancer treatment information including treatment and supportive care information summaries from the Physician Data Query database (see below). CancerFax is available in English and Spanish and operates 24 hours a day, seven days a week. Call the phone number above to have information sent directly to a fax machine.

## Physician Data Query (PDQ)

The PDQ is a computer database which contains cancer information statements, listings of research studies (clinical trials), and directories of physicians and organizations involved in cancer care. PDQ was developed by the NCI and contains information statements on state-of-the-art cancer treatment, screening, and prevention, supportive care for cancer patients, and investigational and newly approved chemotherapy.

There are a number of ways people can obtain information from PDQ. Cancer patients, their families, and the public can call the Cancer Information Service (CIS) at 1-800-422-6237. CIS Information Specialists use PDQ information to answer callers' questions.

Physicians and other health professionals can obtain customized PDQ information through the PDQ Search Service (Tel: 1-800-345-3300, Fax: 1-800-380-1575). The e-mail address is: [pdqsearch@icic.nci.nih.gov](mailto:pdqsearch@icic.nci.nih.gov). In addition, the Health Sciences Library at the University of New Mexico has PDQ access. Selected PDQ materials are also available on the NCI's World Wide Web site: [www.cancer.gov](http://www.cancer.gov).

### CancerNet

 E-mail: [Cancernet@icic.nci.nih.gov](mailto:Cancernet@icic.nci.nih.gov)

CancerNet is a way to obtain PDQ information summaries and other NCI information via Internet and selected electronic information services. To use CancerNet, send an e-mail message to the address above. Enter the word "HELP" as the text of the message to receive materials in English; enter "SPANISH" to receive the information in Spanish.

# Professional Education

The following organizations are available to health care providers in search of professional education materials, practice guidelines and recommendations, and educational resources for patients with special needs.

<b>Organization</b>	<b>Phone Number</b>
American Academy of Family Physicians .....	(913) 906-6000
American Association of Retired Persons .....	(703) 550-9703
American Cancer Society .....	(800) ACS-2345
American College of Obstetricians and Gynecologists .....	(202) 638-5577
American College of Physicians/American Society of Internal Medicine .....	(215) 351-2400
American College of Radiology .....	(703) 648-8900
American College of Surgeons .....	(312) 202-5000
American Medical Association .....	(312) 464-5000
American Medical Women's Association .....	(703) 838-0500
American Nurses Association .....	(202) 554-4444
American Society of Radiologic Technologists .....	(800) 444-2778
Cancer Information Service .....	(800) 422-6237
The National Alliance for Hispanic Health .....	(202) 387-5000
Food and Drug Administration .....	(800) 838-7715
Indian Health Service Cancer Prevention and Control Program .....	(505) 248-4132
National Black Women's Health Project .....	(202) 543-9311
National Health Information Center .....	(800) 336-4797
Native American Women's Health Education Resource Center .....	(605) 487-7072
Office of Minority Health Resource Center .....	(800) 444-6472

# Electronic Resource Directory

Resource	Website
American Cancer Society (ACS) .....	<a href="http://www.cancer.org">www.cancer.org</a>
Centers for Disease Control & Prevention .....	<a href="http://www.cdc.gov/nccdphp/dpcp/">www.cdc.gov/nccdphp/dpcp/</a>
CDC Spanish language website .....	<a href="http://www.cdc.gov/spanish/">www.cdc.gov/spanish/</a>
Cochrane Database of Systemic Review Online .....	<a href="http://www.cochrane.org">www.cochrane.org</a>
Edu-Care, Inc: Breast Health and Breast Cancer Network .....	<a href="http://www.CancerHelp.com/">www.CancerHelp.com/</a>
Jacobs Institute of Women's Health .....	<a href="http://www.jiwh.org">www.jiwh.org</a>
National Alliance of Breast Cancer Organizations (NABCO) .....	<a href="http://www.nabco.org">www.nabco.org</a>
National Cancer Institute (NCI), includes cancer clinical trials .....	<a href="http://www.cancer.gov">www.cancer.gov</a>
National Guidelines Clearinghouse .....	<a href="http://www.guideline.gov">www.guideline.gov</a>
Native Health Research Database .....	<a href="http://www.hsc.unm.edu/nhrd/">www.hsc.unm.edu/nhrd/</a>
New Mexico Department of Health, New Mexico Breast and Cervical Cancer Program .....	<a href="http://www.health.state.nm.us">www.health.state.nm.us</a> <i>or</i> <a href="http://cancernewmexico.org">cancernewmexico.org</a>
Office of Minority Health Resource Center .....	<a href="http://www.omhc.gov">www.omhc.gov</a>
National Women's Health Information Center .....	<a href="http://www.4woman.gov">www.4woman.gov</a>
National Women's Health Resource Center .....	<a href="http://www.healthywomen.org">www.healthywomen.org</a>
US Department of Health and Human Services resources on consumer health .....	<a href="http://www.healthfinder.org">www.healthfinder.org</a>

# Patient Education Pages

The following three pages may be photocopied and distributed as patient education materials.

**The first two pages** describe the breast self-examination procedure and the signs and changes which should prompt a woman to seek a professional examination. It is appropriate for all adult patients. Photocopy these two pages onto a single page, front and back.

**The third page** defines and describes the mammogram procedure and answers some basic questions about mammograms. It may be appropriate for patients who are considering or have been referred for a mammogram.

Space is provided for health care providers to include contact information for themselves and their practices.

## What is the breast self-exam?

It is a simple exam which any woman can do herself to detect changes in her breasts which might indicate breast cancer. By doing the exam regularly, a woman can notice changes earlier. The sooner breast cancer is found, the easier it is to treat.

## Who needs to do breast self-exams?

All women age 20 or older should do breast self-exams each month. Women age 40 or older should also have a clinical breast exam performed by a health care provider each year. Women under 40 can discuss how often they need a clinical breast exam with their health care provider.

## How do I do the breast self-exam?

The exam is simple and takes only a few minutes each month. **The back of this sheet contains step-by-step instructions.** Your health care provider can also demonstrate it for you.

## What if I find something?

If you notice any **changes** in your breast which do not go away, such as a **lump, swelling, dimpling, nipple tenderness, nipple discharge, or lasting pain**, you should contact a health care provider immediately. You can call the Cancer Information Service to find someone who can help. Their number is:

1-800-4-CANCER (800-422-6237).

## Did You Know?

All women age 20 or older should perform a breast self-exam each month.



1 in 8 women who lives to age 85 will develop breast cancer in her lifetime.



By performing regular breast self-exams, you will be better able to notice any changes which may point to breast cancer.



# The Breast Self-Exam Step-by-Step

Check your breasts at the same time of each month.

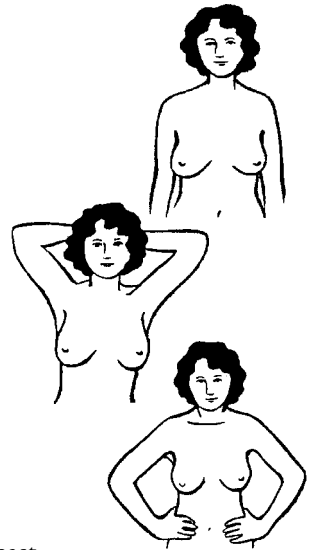
The best time is 2–3 days after your period ends. If you are not having periods, pick a day in the month, like the first day of the month, to examine your breasts.

## 1 Looking in the mirror for changes

Take off your shirt and bra and stand in front of a mirror with your arms at your side. Look for wetness from your nipples and for skin on your breasts which looks wrinkled or flaky.

Hold your hands behind your head and press your hands forward. Look for any change in the shape of your breasts.

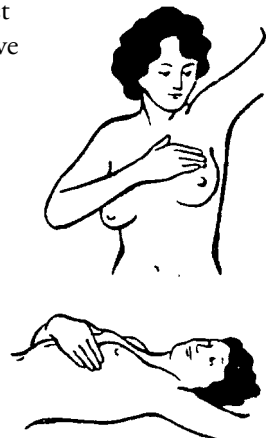
Press your hands firmly on your hips. Bend a little forward and pull your shoulders and elbows forward. Look for any changes in the shape of your breasts.



## 2 Feeling for lumps

Raise your left arm. Use three or four fingers to feel your breast firmly. Begin at the outer part of the breast. Press on your breast with the flat part of your fingers and move in small circles. Move around the entire breast, working toward the nipple. Be sure to feel the whole breast. Feel the area between the breast and underarm and also under your arm. Raise your right arm and do the same with the right breast and underarm.

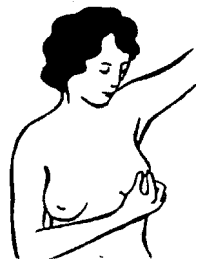
Lie down flat on your back with your left arm over your head. Put a pillow or folded towel under your left shoulder. Feel your breast and underarm the same way you did when you were standing. Do the same with your right breast and underarm.



## 3 Checking for nipple discharge

Gently squeeze each nipple to see if anything comes out.

**If you notice a lump, swelling, dimpling, nipple tenderness, nipple discharge, or lasting pain, contact a health care provider immediately.**



## What is a mammogram?

It is an x-ray picture of the breast. Mammograms are safe and easy to perform. A woman stands in front of a special machine which takes several x-ray pictures of the breast. The x-rays are then examined by a specialist who looks for early signs of breast cancer.

## Who needs a mammogram?

All women age 50 or older should have a mammogram performed every 1–2 years. Some women between the age of 40 and 49 may also need to have a mammogram. If you are unsure, discuss with your health care provider how often you should have a mammogram.

## How do I get a mammogram?

You can contact your health care provider to schedule a mammogram. Or you can call the Cancer Information Service for help. Their number is 1-800-4-CANCER (800-422-6237).

On the day of your mammogram:

- ✓ Wear a blouse and skirt or slacks instead of a dress or jumper. You will need to undress to the waist.
- ✓ Don't use deodorant, perfume, powders, or ointment on your breasts or underarms. They could cloud the x-ray.

## Did You Know?

1 in 8 women who lives to age 85 will develop breast cancer in her lifetime.



All women 50 years old or older should get a mammogram every 1–2 years.



A mammogram can find a lump up to 2 years before you can feel it. If it is found early, breast cancer is easier to cure.



# Citations and References

Agency for Health Care Policy and Research (1994). High Quality Mammography: Information for Referring Providers. Quick Reference Guide for Clinicians, 13.

American Cancer Society (2000). Cancer Statistics 2000, *CA*, 50, 7–33.

American Cancer Society (2000). Cancer Facts & Figures 2000.

Barton MB, Harris R, Fletcher SW. (1999). Does this Patient Have Breast Cancer? The Screening Clinical Breast Examination: Should It Be Done? How? *JAMA* 282:1270–1280.

Breen N, & Brown ML. (1994). The Price of Mammography in the United States: Data from the National Survey of Mammography Facilities. *Milbank Quarterly*, 72, 431–450.

Centers for Disease Control and Prevention, Trends in Self-Reported Use of Mammograms (1989–1997) and Papanicolaou Tests (1991–1997). Behavioral Risk Factor Surveillance System (1999). *MMWR* 48 SS-6.

Collaborative Group on Hormonal Factors in Breast Cancer: Breast Cancer and Hormonal Contraceptives. (1996). Collaborative Reanalysis of Individual Data on 53,297 Women with Breast Cancer and 100,239 Women without Breast Cancer from 54 Epidemiological Studies. *Lancet* 347:1713–1727.

Eley J, Hill WH, Chen V, Austin D, Wesley M, et al. (1994). Racial Differences in Survival from Breast Cancer. *JAMA*, 272, 9954.

Gilliland FD, Hunt WC, Key CR. (1998). Trends in the Survival of American Indian, Hispanic, and Non-Hispanic White Cancer Patients in New Mexico and Arizona, 1969–1994. *Cancer* 82:1769–1783.

Gilliand FD, Joste N, Stauber PM, Hunt WC, Rosenberg R et al. (2000). Biologic Characteristics of Interval and Screen-Detected Breast Cancers. *Jr Nat Cancer Inst* 92:743–749.

Health and Human Services (2000) Health, United States: 2000. Government Printing Office.

Henderson IC. (1993). Risk Factors for Breast Cancer Development. *Cancer*, 71 (supp.): 2127–2140.

Hendrick RE. (1997). Benefit of Screening Mammography in Women Aged 40–49: A New Meta-Analysis of Randomized Controlled Trials. *J Nat Cancer Inst Monogr*, 22:87–92.

Hunter DJ, Spiegelman D, Adams HO. (1996). Cohort Studies of Fat Intake and the Risk of Breast Cancer—a Pooled Analysis. *NEJM*. 334:356-361.

- Kerlikowske K, Salzman P, Phillips KA, Cauley JA, Cummings SR. (1999). Continuing Screening Mammography in Women Aged 70 to 79 Years. *JAMA* 282:2156–2163.
- Lawson HW, Henson R, Bobo JK, Kaeser MK. (2000). Implementing Recommendations for the Early Detection of Breast and Cervical Cancer Among Low-Income Women. *MMWR* 49(RR02):35–55.
- Lippman SM, Lee JJ, Sabichi AL. (1998). Cancer Chemoprevention: Progress and Promise. *J Natl Cancer Inst* 90:1514–1528.
- Lipworth L. (1994). Epidemiology of Breast Cancer. *European Jr of Cancer Prevention*, 7–30.
- New Mexico Tumor Registry. Malignancies Diagnosed, 1998, State of New Mexico. Epidemiology and Cancer Control/NMTR, (2000). University of New Mexico Health Sciences Center, Albuquerque.
- Rajkumar SV, Hartmann LC. (1999). Screening Mammography in Women aged 40–49 Years. *Medicine* 78:410–416.
- Rockhill B, Willett WC, Hunter DJ et al., (1998) Physical Activity and Breast Cancer Risk in a Cohort of Young Women. *J Nat Cancer Inst.* 90:1155–1160.
- Ross RK, Paganini-Hill A, Wan PC, Pike MC. (2000). Effect of Hormone Replacement Therapy on Breast Cancer Risk: Estrogen versus Estrogen Plus Progestin. *J Nat Cancer Inst* 92:328–332.
- Schairer C, Lubin J, Troisi R, et al. (2000). Menopausal Estrogen and Estrogen-Progestin Replacement Therapy and Breast Cancer Risk. *JAMA* 283:485–491.
- Smith RA, Mettlin CJ, Davis KJ, Eyre H. American Cancer Society Guidelines for the Early Detection of Cancer. (2000). *Cancer* 50:34–49.
- State of New Mexico Department of Health, Public Health Division. (1999). Selected Health Statistics. Santa Fe: Department of Health, Public Health Division, Bureau of Vital Records and Health Statistics.
- Swedish Cancer Society and the Swedish National Board of Health and Welfare. (1996). Breast Cancer Screening with Mammography in Women Aged 40–49 Years. *Int J Cancer*, 68:693–699.
- Taber L. (1997). Recent Results from the Swedish Two-County Trial: The Effects of Age, Histologic Type and Mode of Detection on the Efficacy of Breast Cancer Screening. *J Natl Cancer Inst Monogr*, 22:43–47.
- Thomas DB, Gao DL, Self SG, Allison CJ, Toa Y, et al. (1997). Randomized Trial of Breast Self-Examination in Shanghai: Methodology and Preliminary Results. *Jr Nat Cancer Inst* 89:355–365.

Thorlacium S, Struewing JP, Hartge P, et al. (1998). Population-based Study of Risk of Breast Cancer in Carriers of BRC2 Mutation. *Lancet* 352:1337–1339.

U.S. Preventive Services Task Force. (1996). Guide to Clinical Preventive Services, 2nd ed. Baltimore: Williams & Wilkins.

Vogel VG. (2000). Breast Cancer Prevention: A Review of Current Evidence. *CA* 50:156–170.

Zhang S, Hunter DJ, Hankinson SE, Giovannucci EI, Rosner BA, et al. (1999). A Prospective Study of Folate Intake and the Risk of Breast Cancer. *JAMA* 281:1632–1637.





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DEPARTMENT OF  
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