My name is Ana Nelson. I’m an advanced practice nurse at the Cancer Prevention Center at The University of Texas MD Anderson Cancer Center. Today, this presentation is about Breast Cancer Epidemiology.

Upon completion of this lecture, participants will be able to identify the trends of breast cancer in the U.S.; identify the incidence and mortality rates of breast cancer in the U.S.; and identify the survival rates of breast cancer in the U.S.

Breast cancer is the most common cause --- cancer diagnosed among women in the United States. In 2012, the American Cancer Society estimates that about 226,000 new cases of breast cancer will be diagnosed among women in the U.S. Female breast cancer will account for 29% of the new cancer diagnosis.

Breast cancer is the second most common cause of cancer death among women in the United States after lung cancer. In 2012, the American Cancer Society estimates that about 39,000 new breast cancer-related deaths will occur among women in the U.S. Female breast cancer will account for 14% of all the cancer-related deaths.

Worldwide breast cancer is the most frequent diagnosed cancer among females. According to GLOBOCAN 2008, the breast cancer incidence rate per 100,000 was higher in North America, West and Northern Europe, Australia, New Zealand, South of South America, and the lowest in many African and Asian countries.

Worldwide breast cancer is also the leading cause of cancer-related deaths among females. According to GLOBOCAN 2008, female breast cancer mortality rate per 100,000 was higher in many African and Asian countries.

From 1975 to 2008, female breast cancer incidence rate remained higher than the incidence rate of other cancers such as colorectal, lung, uterine, melanoma, thyroid, and liver. From 1995 --- I’m sor --- from 1999 to 2005, breast cancer incidence rate decreased by 2% per year, but from 2005 to 2008, breast cancer among females remained relatively stable.

It’s important to define invasive breast cancer in the --- and ductal carcinoma in situ or DCIS. Invasive breast cancer is when cancer cells that have spread from the area where they started to the breast around tissues, lymph nodes, and other parts of the body. Ductal carcinoma in situ, or DCIS, is a noninvasive cancer. It is when cancer cells are found in the lining of a breast duct and have not spread outside of the duct.

From 2004 to 2008, the diagnosis of breast cancer was higher among women between 55 to 64 years of age and among women between 45 to 54 years of age. Then it was followed by women between 65 to 74 years of age and the diagnosis of breast cancer was lower among women less than 44 years of age and among women older than 75 years of age.
These graphs show that breast cancer incidence rates increase for both cancer in situ and invasive cancer in the 1980s and the 1990s.

And, it is observed that in the 1980s, breast cancer incidence rate was higher among women 50 years of age than among women less than 50 years of age. This increase was largely as a result of introduction of screening mammography and changes in reproductive pattern such as delayed childbearing and women having fewer children, which are recognized as risk factors for breast cancer. From 1993 to 1999, breast cancer incidence rates increased again but at lower rate of 1.9% per year. This increase has been attributed to prevalence of screening mammography, rising in obesity, and use of postmenopausal hormonal replacement therapy. However, from 2002 to 2004, breast cancer incidence rates declined sharply, about 7% per year. This decline has been attributed to the decrease in the use of hormonal replacement therapy after the results of the Women’s Health Initiative study in 2002 which found an increased risk of breast cancer with the use of postmenopausal hormone replacement therapy. Also, attributed to the increased use of screening mammography.

This slide shows the trends in death rates among females for selected cancers in the U.S. from 1975 to 2008. It is observed that from 1975 to 1990, female breast cancer mortality rates increased by 0.4% per year. However, since the 1990s, breast cancer mortality rate have steadily declined.

... for about --- for all ages about 2.2% per year with a decrease of 3.2% per year in women less than age of 50, and a decrease of two po --- 2.0% a year in women older than age of 50. These decreases has also been attributed to improvement in breast cancer early detection and treatment.

There has been disparities in the trends of female breast cancer incidence rate and mortality rate by race and ethnicity in the United States. This slide shows the trends of female breast cancer incidence rates by race and ethnicity from 1975 to 2008.

And, it is observed that from 2004 to 2008, breast cancer incidence rates were higher in non-Hispanic, white women, about 125 cases per 100,000 females per year, and lowest among Asian-American Pacific Islands women, about 84.9 cases per 100,000 females per year.

This graph shows the trends of female breast cancer mortality rates by race and ethnicity in the U.S. from 1975 to 2008.

Breast cancer mortality rate declined in most racial ethnic groups from 1998 to 2007, about 2% per year in white women, 1.4% per year among African-American women, 1.9% a year among Hispanic and Latin women, 0.8% per year among Asian-American Pacific Island women, but it remained unchanged among American-Indian women. This decline was also related to improvement in breast cancer early detection and treatment.
The ratio in ethic --- ethnical disparity in breast cancer mortality rate and the five-year survival rate is well observed among white and African-American women in the --- in --- in the United States. In white women, breast cancer and --- and mortality rate was 23.9 per --- per 100,000 females per year, and the five-year survival rate for regional stage was 85.2%. This was related to improvement in the early detection and treatment. In African-American women, breast cancer and --- and mortality rate was 32.4 deaths per 100,000 females, and the five-year survival rate for regional stage was 72.1%. This was related to higher rates of diagnosis at a later stage of disease.

These graphs --- this graph illustrates the distribution of breast cancer per stage of diagnosis in white and African-American women from 1999 to 2006. Wh --- White women had a higher percentage of breast cancer diagnosed at a localized stage than African-American women. On the other hand, African-American women had a higher percentage of breast cancer diagnosed at a regional and distant stage than white women.

Consequently, the distribution of breast cancer by stage of diagnosis in white and African-American women contribute to the five-year relative survival rate in these two groups from 1999 to 2006. White women had a higher percentage for the five-year survival rate than African-American women, for localized, regional, and distant breast cancer.

In summary, invasive breast cancer is the most common cancer diagnosed and the second leading cause of death from cancer among women in the U.S. The incidence of breast cancer has remained stable since 2003, but the mortality rate of breast cancer continues to decline in the U.S. Screening mammograms and improvement in treatment of breast cancer have led to a dramatic decrease in the mortality of breast cancer in the U.S.

The five-year survival rate has increased since 1999 and is greater when breast cancer is diagnosed at an early stage. White women are more likely to be diagnosed with breast cancer, but black women are more likely to die from breast cancer in the U.S. Thank you for your participation, and we would appreciate some feedback.