Overall, more white women get breast cancer than do black women, yet black women under age 50 die of the disease almost twice as often as white women under 50.

Scientists at the UNC Lineberger Comprehensive Cancer Center want to know why. Led by Robert Millikan, DVM, PhD, they have launched a study of 2,000 women from 44 counties in North Carolina, making it the largest geographical study of its kind.

Based on 16 years of work, we now have a much better understanding of how and why breast cancer occurs in women in North Carolina.

– UNC Professor Robert Millikan

Each year in North Carolina, about 8,100 women are diagnosed with breast cancer. And each year, about 1,300 women in the state die from breast cancer.

Named after Jeanne Hopkins Lucas, a highly-regarded North Carolina state senator who died of breast cancer in 2007, the study is supported by the state’s University Cancer Research Fund and by the National Cancer Institute’s Specialized Program of Research Excellence (SPORE) in breast cancer.

“The Jeanne Lucas Study will provide a comprehensive look at treatment decisions, access to care, and how financial or geographic barriers impact breast cancer outcomes among African-American breast cancer patients in low-income and rural areas,” says Millikan, the Barbara Sorensen Hulka Distinguished Professor of epidemiology in the UNC Gillings School of Global Public Health. “Our study also uses molecular subtype information to provide the
most systematic evaluation to date of breast cancer among African-American women.”

The Lucas study is an extension of the Carolina Breast Cancer Study (CBCS), started by Millikan in 1993, which provides one of the largest breast cancer databases in the United States.

“The Carolina Breast Cancer Study is one of the first research studies to combine state-of-the-art molecular biology with the tools of public health,” Millikan says. “Based on 16 years of work, we now have a much better understanding of how and why breast cancer occurs in women in North Carolina, particularly younger African-American women.”

That study enrolled more than 2,300 women with breast cancer and 2,000 controls between 1993 and 2001. The data were key to a 2006 published report by a Lineberger team that included Millikan, molecular biologist Charles Perou, PhD, and breast cancer specialist Lisa Carey, MD, that found a subtype of breast cancer called “basal-like” has the highest prevalence among premenopausal black breast cancer patients.

The Lucas study – the third phase of CBCS – also will be used to analyze survival rates and a 2006 published report by a Lineberger team that included Millikan, molecular biologist Charles Perou, PhD, and breast cancer specialist Lisa Carey, MD, that found a subtype of breast cancer called “basal-like” has the highest prevalence among premenopausal black breast cancer patients.

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Treatments for these cancers can dramatically affect function and put patients in the distressing position of learning to talk, eat, swallow or even breathe in new ways. In addition to the physical struggle, many patients must navigate a swath of psychological, social, emotional and employment challenges.

That, says Olshan, is why understanding cause and prevention is critical.

Olshan leads the Carolina Head and Neck Cancer Study (CHANCE), funded by the National Cancer Institute. The study, being conducted in 46 counties in central and eastern North Carolina, has accrued data from...