IN PURSUIT OF SCIENTIFIC TRUTHS about women’s health, California Teachers Study (CTS) data are being intensively analyzed at the four founding partner institutions. One of the research teams is located at the Northern California Cancer Center (NCCC), an independent nonprofit cancer research institute in the Silicon Valley suburb of Fremont (www.nccc.org). As it is probably less familiar-sounding to you than the other hubs of CTS research activity - the University of Southern California in Los Angeles, the University of California at Irvine, and the California Department of Health Services in Sacramento - we’d like to introduce you to the NCCC and its mission, which is to conduct population-wide research to understand cancer causes and prevention. The NCCC team working on the CTS has grown substantially in the past couple of years, especially since Peggy Reynolds, PhD, a founding member of the CTS research team, moved from the state health department to NCCC in the winter of 2005. So the next time you read or hear about CTS results in the newspaper or on the radio, it is highly likely you’ll also hear the name of the NCCC!

NCCC programs

The NCCC has several dynamic programs in cancer research, education and information. It operates the cancer registry serving the Greater Bay Area, meaning that all cancers diagnosed in a nine-county region as far north as Marin and as far south as Monterey counties are first reported there. One of six international breast cancer family registries is also headquartered there, as are several other large research projects seeking to understand breast and other cancers. It has a growing program offering cancer education to the public and health care. It is closely affiliated with the Stanford University Comprehensive Cancer Center to increase the multidisciplinary nature of its research and educational interactions.

CTS scientists at NCCC

Pamela Horn-Ross, PhD is a founding member of the CTS. Dr. Horn-Ross received her bachelor’s and doctoral degrees from Johns Hopkins and Yale Universities, respectively. She’s been at NCCC for 19 years and her lifelong research passion involves finding dietary means of preventing cancers, especially those of the breast, endometrium and thyroid. She is conducting research into the potential

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benefits of phytoestrogens (commonly found in soy foods) and isothiocyanates (found in broccoli and other cruciferous vegetables).

Dee West, PhD shares his time with NCCC while also leading the population science division of the Stanford Comprehensive Cancer Center. Educated at Brigham Young University and SUNY Buffalo, Dr. West has long been a national leader in cancer surveillance research. In addition to being a founding member of the CTS, she leads a team of 10 scientists focused on environmental epidemiological research, examining environmental factors in determining who gets cancer, particularly breast cancer and melanoma.

Tina Clarke, PhD is a relatively new addition to the CTS team. She was intent on becoming a medical doctor before graduating with her bachelor’s degree from Duke University, but became passionate about research and epidemiology after spending time in Kenya. She joined NCCC while working on her PhD at Cal-Berkeley nearly ten years ago and has never left. With research interests in breast cancer and lymphoma, Dr. Clarke also serves as Associate Director of the Surveillance Research group at NCCC. She was appointed to the CTS steering committee in the spring of 2006.

Ellen Chang, ScD, joined NCCC in 2005 after completing her bachelors (English) and doctoral (Epidemiology) degrees at Harvard as well as a post-doctoral stint at the Karolinska Institute in Stockholm, Sweden (the famed research institute from which the Nobel prizes are awarded). Dr. Chang brings to CTS research a deep understanding of the causes of lymphoma and other viral cancers. Dr. Chang also works closely with the Surveillance Research group at NCCC and the Asian Liver Center at Stanford.

Dave Nelson, PhD has most recently joined the NCCC CTS research group. With a master’s degree in Mathematics and a doctorate in Statistics from UC Berkeley, he has a long track record of dealing with the complex analysis problems of working with modern genetics information. His expertise will help guide the statistical efforts of all NCCC researchers.

Other key CTS staff at NCCC

The NCCC CTS research team is rounded out by a highly experienced group of master’s degree-level epidemiologists and statisticians, including Christine Collins, Alison Canchola, and Valerie Lee with particular expertise in working with dietary data collected by the CTS; and Susan Hurley, Debbie Goldberg, and Julie von Behren, who work closely with NCCC’s Geographic Information System expert Andrew Hertz and NCCC’s environmental health scientist Bob Gunier to explore environmental risk factors for cancer.

Together, the NCCC researchers bring years of experience, tremendous energy and enthusiasm to CTS research projects and are honored to work on new and innovative ways of building on all of the valuable information provided by you and other members of the CTS study.
CTS research is measuring health risks and benefits of drinking alcohol

For several years, we have heard about the “French Paradox” – the fact that heart disease rates are low in France, a country legendary for its rich foods. Many studies have pointed to red wine, in particular, as a factor in reducing heart disease. Californian women enjoy more wine than do women living in other parts of the US, perhaps because some of the best winegrowing areas in the world - Napa and Sonoma Valleys, Santa Barbara, and the newer vineyards of Lodi and other parts of the Central Valley - are located here. Since the California Teachers Study asked you several questions about alcohol consumption patterns we have been able to look closely at whether alcohol might be associated with development of breast cancer and ovarian cancer.

Published studies about alcohol consumption and cancer in the CTS

In 2002, CTS researcher Dr. Pamela Horn-Ross of the Northern California Cancer Center found that of all the food and beverage intake reported by CTS members in the study’s first questionnaire, the only item specifically associated with later breast cancer was alcohol consumption. Drinking an amount of alcohol equivalent to two or more glasses of wine per day (or 14 or more glasses a week) tracked to a risk of breast cancer which is higher than for non-drinkers. However, women drinking one glass of wine or less a day were not any more likely to develop breast cancer than non-drinkers. Results were similar for drinkers of beer or liquor. In a 2005 follow-up study to better tease out the influence of alcohol on breast cancer, Dr. Horn-Ross examined the ages at which women reported drinking. She found that it was recent drinking patterns and not drinking at earlier ages that seemed to have the greatest influence. In addition, the effects of drinking were found to be more pronounced in women taking hormone replacement therapy or who had already been biopsied for benign breast disease.

In 2006, Dr. Ellen Chang of the Northern California Cancer Center looked at diet in relation to ovarian cancer and also observed a relationship of increased risk with greater alcohol consumption, with greater risk in women drinking two or more glasses of wine per day as compared to never drinkers. Interestingly, the association appears to be restricted to wine only. Work is ongoing to understand whether this relationship might be explained by some other factor that is also more common in wine drinkers. Go to www.calteachersstudy.org and click on Publications for more information on these studies.

New research projects addressing alcohol consumption and other outcomes in the CTS

Dr. Christina Clarke of the Northern California Cancer Center has initiated two new projects in the Teachers Study to look at outcomes associated with alcohol consumption. Since moderate alcohol consumption has been reported to protect against heart attack or other cardiovascular diseases - diseases which take the lives of more American women per year than breast cancer - this project should help to inform women who do drink moderately about the balance between health risks like breast cancer occurrence or death and health benefits like reduced heart disease. Dr. Clarke and...
Dr. Chang are also beginning a new effort to examine the development of lymphatic cancers, including non-Hodgkin lymphoma, Hodgkin lymphoma, and multiple myeloma in CTS women classified by their lifelong alcohol consumption patterns. Other studies have reported that moderate alcohol consumption is associated with reduced risks of non-Hodgkin lymphoma and Hodgkin lymphoma, so we are looking to learn more about how these possibly protective influences might occur. Few studies have been able to look at how drinking data obtained from women prior to their lymphoma diagnosis, so the CTS analysis will make a valuable contribution to this area of research.

What does all this research mean for me? How much should I drink (or not drink)?

The Teachers Study and other research efforts are not yet able to provide definitive rules about moderate alcohol drinking. We do know that women have some important considerations for drinking alcohol. In addition to the possibly higher risks of breast cancer, women seem to develop alcohol-related diseases like liver cirrhosis more often than men drinking comparable amounts. And, of course, alcohol consumption during pregnancy has been shown repeatedly to harm developing fetuses. Yet, the risk of heart disease and some cancers appear to be lower among women who drink alcohol moderately. So it is important to talk to your physician about this question in light of your own specific health risk concerns. But we will continue this research. Whether you enjoy a glass of wine or you don’t drink, by being a member of the Teachers Study, you and your experiences are helping science to come up with answers to these many important questions about alcohol and health.