

A+ CALIFORNIA TEACHERS STUDY Report Card

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Dian Groh

AFTER TAKING A Pan Am charter flight to Europe in her junior year of college, Dian Groh dreamed of more destinations. Traveling around the world, immersing in exotic cultures, languages and lifestyles - what could be more exciting? So after college, Dian applied for a flight attendant position with Pan American World Airways (Pan

Am). A few years later, Dian got her first introduction to teaching when she was recruited to teach at a new Pan Am flight attendant academy in Hawaii. Instructors came from throughout the Pan Am system and became a tight-knit group as they built and set up the facility. New flight attendants arrived each week for five weeks of intensive training on emergency procedures, such as first aid and evacuations, knowledge of configurations and location of equipment on five different aircraft, food preparation, cross-cultural communication techniques and in-flight training to the West Coast and Tokyo. It was so exciting to have all these people from many countries, cultures and age groups to become Pan Am professionals in such a short period and help them to join the ranks of "those who know their way around the world like most know their way around the block." During peak travel periods, academy instructors would return to flying which, for Dian, included China, Australia, New Zealand, Saudi Arabia, Iran, India and Russia.

Dian's flight plans changed when she started a family; Pan Am didn't allow employees to fly while pregnant. When her twins entered preschool, Dian began work as a recruiter for the Regional Occupational Program, first at University High School and then Mission Viejo High. Later she became a substitute career education teacher for merchandising, business office cooperative, and video television

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FUTURE OF THE CALIFORNIA TEACHERS STUDY IS ASSURED

"THE CALIFORNIA TEACHERS STUDY spans more than a decade of profound transitions in women's health behaviors, including increasing physical inactivity, obesity, and aspirin use. By examining how these common, modifiable risk factors interact with other environmental and genetic risk factors to influence development of breast and other cancers in women, this study will provide critical new knowledge that can serve as the basis for behavioral public health interventions that benefit women on a population-wide scale."

With this formal language typical of the government research grant process, reviewers at the U.S. National Cancer Institute approved funding to continue the California Teachers Study for 5 more years. One of the reviewers simply described it as "an important national resource."

For 15 years, the California Teachers Study has been a

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Future... (Continued from page 1)

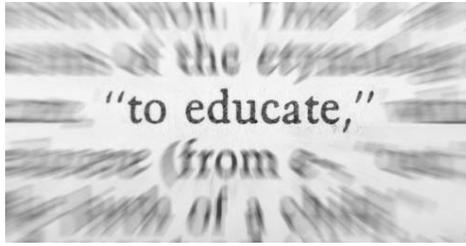
collaboration of research centers from around the state including:

- the City of Hope in Duarte
- the Cancer Prevention Institute of California (formerly the Northern California Cancer Center) in Fremont
- the University of California, Irvine
- the University of Southern California in Los Angeles
- the California Cancer Registry of the California Department of Public Health in Sacramento.

"The reviewers agree that the proposed research has the potential to derive important new information and an important resource for identifying environmental factors related to long term exposures. The investigative team is strong and...the application is extremely strong with negligible weaknesses and if successful has high potential to move the field forward" noted the review committee.

Thus, 2011 has become an exciting time of planning and turning new ideas into reality. This newsletter is the first step, to report to you on recent progress of the study. To date, 65 scientific reports have been published in medical journals and three more have been accepted for publication (visit www.calteachersstudy.org/publications.html for complete information). In addition, our study scientists have presented the results of our latest research to other scientists, policy makers, advocates and community members.

Although the primary emphasis of the study was and continues to be on breast cancer, the new funding also encompasses research on causes of endometrial, ovarian and colon cancer. Additional efforts are underway to seek support for studies of other types of cancer, immune disorders, neurologic diseases, asthma, cardiovascular disease and Alzheimer's disease among California Teachers Study participants.



And, of course, we will be asking for the continued participation of all of you. It is time to hear about your current lifestyle and medical events, as well as to explore new questions arising from the latest scientific research. We also hope that you will help us evaluate newer, more efficient communication methods such as email and web-based

services that can save the costs of traditional postal delivery and are also more environmentally friendly.

As always, we thank all of the participants in the California Teachers Study, including you, for taking time to share your experiences. As Californian women are experiencing declining cancer rates and living longer, healthier lives it is efforts such as yours that make this possible. ❖

Interview (Continued from page 1)

production and career advisor for Saddleback Valley Unified School District.

As her children approached middle school, the family moved to Texas and Dian worked as a grant assistant and coordinator for at-risk students. From there she received her alternative teaching credential and became an elementary ESL teacher. Eventually Dian became an adjunct adult education ESL instructor and has been teaching advanced students for five years.

Familiar to most teachers, what has motivated Dian throughout her varied teaching career is the "light bulb" moment, whether training flight attendants, recruiting for the Regional Occupational Program, advising high school students in the career center, or teaching English to adults. In fact, her ESL work allows her to continue to engage with the worldwide community through the voices of immigrants.

In 1995, Dian was one of the 133,000 members of the California State Retirement System who responded to the invitation to participate in the California Teachers Study. She says "I am very fortunate that my family has not been touched by cancer; however, so many of my friends have gone through the cancer experience, I feel my education family has been unduly inundated. My best friend had breast cancer and lung cancer in the same year, but is a five year survivor! I am so honored to have participated in the California Teachers Study. I feel the data being gathered will help physicians to develop cures for major diseases, create preventive measures and assist with early detection." ❖



RECENT BREAST CANCER RATES DROP IN CALIFORNIA TEACHERS STUDY

Decline linked to decreased use of menopausal hormone therapy

AFTER DECADES OF increasing breast cancer rates, health officials in many countries were perplexed by an abrupt decline in rates beginning in 2003 among women aged 50 and older. Since no obvious prevention strategy could be identified to explain the trend, many theories were proposed, ranging from changes in mammography use to flawed cancer reporting. One highly controversial suggestion was that the decline was due to large numbers of women suddenly stopping the use of hormone therapy medications for symptoms of menopause. This occurred following widespread publicity



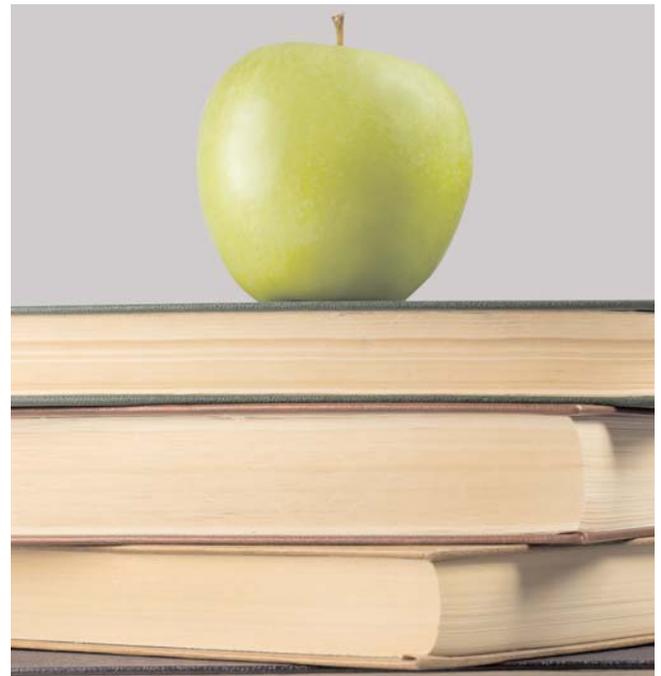
in July 2002 of results from the Women's Health Initiative (WHI), a 15-year study of 161,808 women aged 50-79, that showed an increased risk of breast cancer among postmenopausal women who were using hormone therapy that included both estrogen and progesterin. The two most commonly prescribed forms of hormone therapy in the United States, Premarin® and Prempro™, had their steepest declines in use starting in 2002-2003 - from 61 million prescriptions written in 2001 to 21 million in 2004.

From the beginning, participants in the California Teachers Study have reported their patterns of use of hormone therapy, mirroring most of the period covered by the WHI. Thus, we were able to compare hormone therapy use between 1995-1996 (before the WHI findings were released) and 2005-2006 (after the WHI findings were released) among the 74,647 participants aged 50 years and older. During that period, 565 in situ and 2,668 invasive breast cancers were diagnosed. Incidence rates of in situ breast cancer (the early stage of cancer, when it is confined to the layer of cells where it began) in this population did not change significantly from 2000-2002 to 2003-2005. The fact that in situ breast cancer rates didn't change suggests that mammography was not responsible for the decline, as in situ breast

cancer is detected almost exclusively by mammographic screening.

However, rates of invasive breast cancer (cancer that has already grown beyond the layer of cells where it started) declined significantly by 26%. In 1996-2002 invasive breast cancer rates were higher for women who reported current hormone therapy use at the beginning of the study than for women who had never used or previously stopped using the therapy; but by 2003-2005 rates were comparable between these groups - likely because women who had used hormone therapy at the beginning of the study had stopped using it before 2003, bringing their risk down to the level of never and former users. Notably, breast cancer incidence did not change significantly for those who never used hormone therapy. Together, these findings lead us to believe that the decrease in invasive breast cancer is explained predominantly by changes in hormone therapy use. Without the ongoing participation of CTS members over this important time period, it would not have been possible to identify the role of hormone therapy use in the declining pattern of new breast cancer diagnoses.

These findings were published in a 2010 issue of the journal *Breast Cancer Research* by Sarah F. Marshall, Christina A. Clarke, Dennis Deapen, Katherine Henderson, Joan Largent, Susan L. Neuhausen, Peggy Reynolds, Giske Ursin, Pamela L. Horn-Ross, Daniel O. Stram, Claire Templeman, and Leslie Bernstein of the California Teachers Study (Marshall SL et al., *Breast Cancer Res* 2010;12(1):R4). ❖



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THE CALIFORNIA TEACHERS STUDY IS IN THE POOL

WHETHER FLOATING FOR RELAXATION, swimming laps for fitness or playing with the kids, California is known as the land of the swimming pool. And now, the California Teachers Study is officially in the pool!

In medical research the term "pooling" has taken on new meaning in recent years. Much health-related research relies on the participation of many volunteers - including people with illness and those without. But for some less common diseases, it can be difficult to find enough patients to produce statistically reliable results. To address this problem, researchers can combine data from different studies, "pooling" their results.

So the California Teachers Study has jumped into the pool. By combining data (without personal identifiers) with other leading institutions around the world including Harvard, the National Cancer Institute, the American Cancer Society and centers in Sweden, Netherlands, Australia, Finland and Canada, larger numbers of participants can be included. Another benefit is pooling of the research expertise. Each of centers is represented by at least one of their leading experts, creating extraordinary research collaborations.

Consider pancreatic cancer. This disease has few early symptoms, so when it is diagnosed it is usually at late stage with a poor prognosis. Despite decades of research, little is known about the causes. By joining the California Teachers Study data with information from 13 other studies from around the world, a pooled study known as the Pooling Project of Prospective Studies of Diet and Cancer included 1,148 women with pancreas cancer. All 14 studies were cohort studies, meaning that the participants were enrolled in the study and provided

study data before the cancer diagnosis. Heavy alcohol intake is associated with risk of chronic pancreatic inflammation, raising the question as to whether it also increases risk of pancreas cancer. Most research to date has not shown a significant relationship but, again, the studies tend to be small. Analyses of these Pooling Project data showed a slight but statistically significant risk of pancreas cancer among women who drank the most alcohol.

How about kidney cancer? The Pooling Project combined California Teachers Study data with 12 other studies to examine dietary factors. In a pooled analysis of 709 women with kidney cancer, higher consumption of fruits and vegetables was found to be associated with lower risk (again, the diet information was collected years before the diagnosis). Eating of red meat, processed meat, poultry and seafood was not found to be associated with the risk of kidney cancer.

Additional Pooling Project research includes endometrial cancer, stomach cancer, some rarer breast cancers and even amyotrophic lateral sclerosis, the incurable neuromuscular disease. ❖

