

A+ CALIFORNIA TEACHERS STUDY Report Card

VOLUME VII, FALL 2004

TEACHERS STUDY EXPANDS HORIZONS

AS WE ALL KNOW, DISCOVERY of the causes of cancer and other serious diseases presents a real challenge. While some types of research involve experimenting with fruit flies or Petri dishes, others, like the California Teacher Study, require active participation of volunteers thoughtfully reporting their exposures and behaviors as they carry out their day-to-day lives; this information is often collected by surveys, such as those collected every two years for this study. But the fast-paced development of new technologies and expanding understanding of genetics in particular, has opened a new world of research opportunities.

Most of us grew up learning about genetics in terms of traits that we inherited: eye and hair color or male pattern baldness, for example, that we can blame on our parents. And we have long known of genetically-linked diseases, like sickle-cell anemia or Huntington's disease, and sometimes also fear that we might inherit an increased risk of some cancers through our genes. But actually, genes control just about every aspect of our physiologic functions. Each cell in our bodies contains about 30,000 genes! And these genes give instructions that regulate the complex functions of each different type of cell.

Although everyone has the same set of genes, these genes

function differently in different individuals and when these differences are summed together, they give us many of the traits and characteristics that make each of us unique.

Most genes have minor variations in their basic structure. Many of these variants do not change the function of the gene at all so they are, in every way, totally invisible to us. However, we know that many others do cause changes that may affect, for example, how much of certain hormones or growth factors our bodies produce, or how rapidly we are able to detoxify and rid ourselves of harmful chemicals we ingest or absorb from our environment, including cancer causing agents.

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HAVE YOU MOVED?

SAVE THIS CARD! The California Teachers Study is a long-term research project. To assure that you receive future newsletters containing study updates, please save this postcard and return it to us if your name or address changes. Thank you!

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And it is relatively simple. The National Cancer Institute has approved a new component of the Teachers Study, in which some study members will be asked to provide a blood sample. These samples will be collected by trained experts in the same way your blood is drawn when a physician orders "lab work". We will collect a few tablespoons of blood in glass vials. These samples contain all of the genetic materials necessary to look at how genes vary.

Choosing to provide a blood sample for this study will be purely voluntary. The research team will look for patterns of genetic configurations in comparison with information already provided on Teachers Study surveys and see whether any

So what does this have to do with the Teachers Study? As part of our work in the next five years, we will initiate a state-of-the-art study that combines information from the study surveys provided by the 133,000 participants in the California Teachers Study with information about genetic variants that we think may play a role in risk of breast and other cancers. Technology available today permits this work to proceed at a pace unthinkable just a decade ago.



combinations are more common among women who have developed cancer than those who have not. We can also look for interactions between these patterns and other exposures, even diet.

How will this help control cancer? At the least, if reliable factors can be found which identify people with greater risk of developing certain forms of cancer, this will be valuable for early diagnosis which, in turn, can increase the success of treatment. Furthermore, if interactions between genes and other environmental or lifestyle factors are discovered, a woman might even be able to substantially reduce her risk of some type of cancer if she avoided the exposure. ❖



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California Teachers Study

The California Teachers Study is continuing our commitment to improving the health of California women. We are pleased to have been selected by the National Cancer Institute to receive another five years of financial support.

Looking to the future, we want to be sure to stay current with the rapid changes in society. Communications technology has changed dramatically since the study began – so far, just about all of our communication has been by mail.

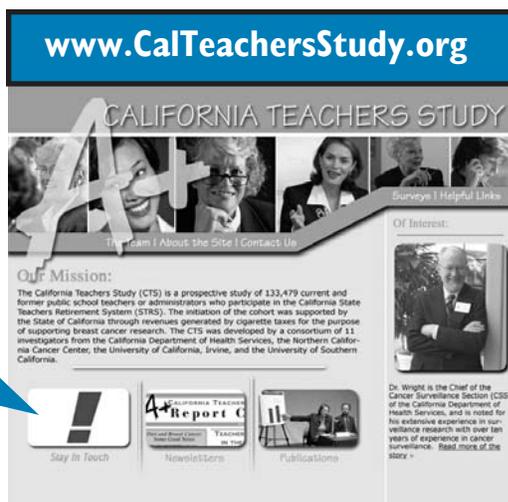
But now we're wondering: are we ready for the Internet? It has the potential for us to communicate with you, and you with us, instantaneously and almost for free.

We'd like to hear what you think. For those of you with Internet access, please go to our website (www.CalTeachersStudy.org) and click on the picture shown below.

If you're not Internet wired, we will still be sure to stay in contact through the mail and you can always write or call us toll-free: our numbers are at the bottom of this page.

THANK YOU for your continued support of the California Teachers Study!

Click on this link!



NEED TO CONTACT US?

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TEACHERS STUDY MAKES THE GRADE

2004 HAS BEEN AN EXCITING YEAR for the California Teachers Study. Since 1998, the US National Cancer Institute has provided the financial support for the study, with the most recent allocation drawing to an end in 2003. Earlier this year, the government’s reviewers noted in their most recent evaluation of the study that it has “the potential to contribute broadly to our understanding of determinants of cancer risk and risk for other diseases in women” and approved funding for another five years of research. In a written summary of the review, they noted “there is very strong enthusiasm for this project.”

It was actually in 1995 when all of the participants of the California Teachers Study first responded to our invitation to be a part of this very focused evaluation of the

health of teachers in California and completed detailed surveys regarding prior medical history, diet, and life-style factors. Although the primary emphasis was and continues to be on breast cancer, the study will also be able to provide new information about many conditions including:

- ◆ Colon cancer
- ◆ Endometrial cancer
- ◆ Lung cancer
- ◆ Other types of cancer
- ◆ Immune disorders
- ◆ Neurologic diseases
- ◆ Alzheimer’s disease

The information contributed by all of you has already resulted in research findings that have been published in several medical journals. More information about these publications can be found by clicking on "Publications" on the website www.CalTeachersStudy.org.

In 2005, all participants will receive a new mailed survey. We hope that you will find it interesting and want to thank you in advance for your participation. ❖

