

## Multiethnic Cohort Update

As a result of your considerable efforts and continued support of the Multiethnic Cohort (MEC) Study, we are very pleased to report that we have received nearly 100,000 completed *Health Research Survey* forms over the past few years. This information enables us to see how people's diets have changed since they completed our first survey in 1993-1996. Your participation is proving to be very valuable to the MEC researchers, whose goal is to reduce people's risk of getting cancer.

Members of the MEC staff are working tirelessly to prepare the survey data for analysis by the MEC researchers. In upcoming newsletters, we will continue to provide you with reports on our activities and research findings.

### BIOSPECIMENS IN CANCER RESEARCH

Biospecimens are small samples of materials from the human body, such as blood, saliva, urine and tissue that can be used for research on cancer and other diseases. To date, more than 73,000 of you have provided biospecimens for the MEC investigators to use in their research. These specimens are stored in a "library" called a biorepository. This biological specimen resource was carefully designed to collect, process, store, and

*Enrique Zelaya is responsible for managing the biorepository at the University of Southern California (USC).*



later distribute large numbers of high quality specimens to various scientists doing research related to cancer causation, prevention, detection, and treatment.

As soon as a specimen is brought to the lab, it is assigned a unique identifier (ID) to protect the subject's personal information. This ID number, without any names or other personal information, is printed on all samples processed and banked for that individual. Blood and urine specimens are then separated into components (red cells, white cells, serum, etc.) and stored in many small tubes, so that they can best be used for

research. After the specimens are processed, they are placed in special freezers equipped with temperature monitors and electrical backup circuits to ensure long-term storage and reliability. Finally, all sample information such as quantity, quality, and storage location is entered into a secure database. When an investigator needs any of these specimens for a research project, only the amount needed for that study is removed from the biorepository and transferred to the research laboratory.

These valuable specimens can be used for many kinds of research. For example, scientists can study why some individuals are more susceptible than others to cancer caused by smoking, certain types of diets, and other exposures. Instead of relying only on the dietary information provided in the questionnaires we mailed you, investigators can now examine compounds in blood or urine that come from the foods we eat. The ultimate goal of this research is to identify ways to prevent cancer and to find better ways to manage patients who have already developed cancer.

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## High Consumption of Legumes Linked to a Lower Risk of Prostate Cancer

**P**rostate cancer is the most common cancer among men in the United States. According to the National Cancer Institute, out of every three men who are diagnosed with cancer each year, one is diagnosed with prostate cancer. Only a very few risk factors for prostate cancer are well-established. These include age (risk increases dramatically as men become older), family history (men with a father or brother who had prostate cancer have about double the risk of getting the disease as men without a family history), and race/ethnicity (rates are highest among African American men, are lowest in Asian men, and are intermediate in Caucasian men). However, men of the same racial/ethnic group living in different geographic locations can have great variation in their incidence rates of prostate cancer. This means that genetic makeup alone does not determine a man's risk. Therefore, researchers have been looking for lifestyle and environmental risk factors that could be modifiable, such as the diet.

MEC investigators have been studying a wide range of foods and food constituents (fat, vitamins, minerals, etc.) in relation to prostate cancer. Their most recent finding, published in the *International Journal of Cancer* (August, 2008), linked the consumption of legumes to a reduced risk of prostate cancer. Legumes are a family of vegetables made up primarily of various types of beans, and are a good source of protein and dietary fiber. Legumes also contain many other biologically active substances that may have anti-cancer effects, such as phytoestrogens (plant substances that can behave in the body like the female hormone estrogen). Soybeans have been of special interest in this regard, because they contain a particular class of phytoestrogens called isoflavones that might be protective against some hormone-related cancers, most notably breast and prostate cancer.

The MEC study examined the relationship of legume intake to prostate



*Many different types of legumes are consumed in the diets of Multiethnic Cohort participants.*

cancer among 82,483 men representing five ethnic groups in the cohort (African Americans, Caucasians, Japanese Americans, Latinos and Native Hawaiians). During a period of 8 years of following these men, a total of 4,404 prostate cancer cases were diagnosed. The investigators found that men who ate more than 73 grams (2.6 ounces) of legumes per day on average had an 11 percent lower risk of being diagnosed with prostate cancer of any stage, and a 26 percent lower risk of developing more advanced forms of the disease, compared to men who consumed less than 15 grams (0.5 ounces) per day on average.

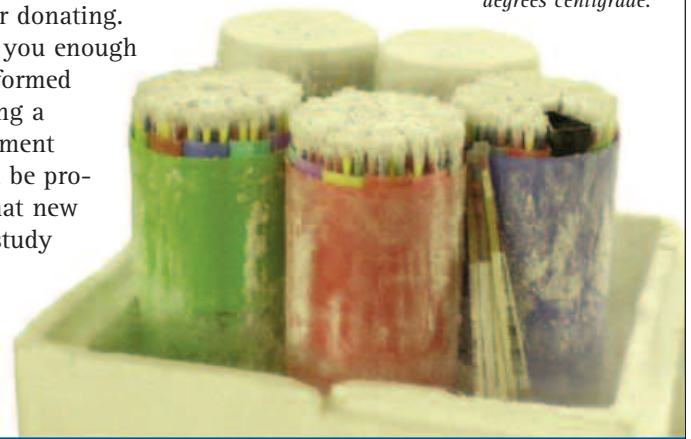
Because of the high amounts of isoflavones in soy foods (including tofu, Miso soup, and vegetarian meat), these foods were examined separately. However, no difference was found between soy foods and non-soy legumes in their protective effect against prostate cancer. This probably means that the benefits of legumes are due to components that are more widely distributed across all legumes, rather than to the isoflavones that are mostly found in soy foods.

In addition to legume consumption, MEC researchers have examined dietary intake of many other foods in relation to the risk of prostate cancer. These include fruits and other vegetables (including tomatoes) that are possibly protective, as well as red meat, processed meat, and dairy products that may increase risk. They also studied constituents of these foods, such as lycopene, vitamin C and vitamin E in fruits and vegetables, fat in meat, and calcium in dairy products. However, they did not find any significant effects of these dietary factors on prostate cancer risk. The researchers have now begun to test nutrients and other substances in the blood and urine samples that were recently collected from many of the participants in the cohort. This is another way to examine the relationship between diet and prostate cancer. ❖

### Multiethnic Cohort Update [continued from page 1]

Most of the collection of biospecimens from our study participants has been completed, but we are still requesting material from some of you. If asked, we hope you will consider donating. We make sure to give you enough information for an informed decision about donating a specimen and to document how your privacy will be protected. Our hope is that new knowledge from this study and the research of other dedicated scientists will help eliminate cancer during our lifetime. ❖

*Biospecimens are stored in liquid nitrogen freezers in multiple tubes ("straws") at -190 degrees centigrade.*



# Supplement Reporting (SURE) Study

## The SURE study is now completed: What have we learned?

The Supplement Reporting (SURE) study asked several hundred participants in the Multiethnic Cohort to keep track of all the dietary supplements they used for a year, and we appreciate the excellent cooperation that we received. Over 400 people allowed an interviewer to visit their homes five times during the year and to count the supplements that they were using. In addition, 655 people filled out and mailed back two short questionnaires about their use of dietary supplements, so we could see if they tended to use the same supplements over a one-year time period. Following are some of the results from the SURE study.

### What types of supplements are used frequently?

The participants in the SURE study used many different supplements. On average, each person used about 10 different supplements across the year of the study. Not surprisingly, the most commonly reported type of supplement was a one-a-day type of multivitamin (almost 15% of

all the supplements that were reported). However, supplements that were taken to improve bone density (usually a combination of calcium and vitamin D) were a close second (over 11% of all supplements). Other popular supplements were fish oil, and supplements taken for arthritis (such as glucosamine and chondroitin).

### Do people use the same supplements from year to year?

People who take multivitamins tend to use them regularly across a year. We found that only 12% of the people who were using multivitamins at the beginning of a year stopped taking them by the end of the year. However, the situation was different for some of the other supplements. For example, approximately

50% of the users of vitamin A, beta-carotene, or iron supplements had stopped using them by the end of the year. Unlike multivitamins, these single vitamin or mineral supplements were generally taken for just a short time.

### Why do people take supplements?

About two-thirds of the SURE participants said that they took dietary supplements because they felt that supplements are good for you, and over half took them to prevent a disease. Most people considered their supplements as important as their prescription medications. Many said that they had starting taking a new supplement based on advice from a health professional.

### How accurate are questionnaires about supplement use?

We found that the questionnaires that people filled out agreed very well with the actual supplements that they used,

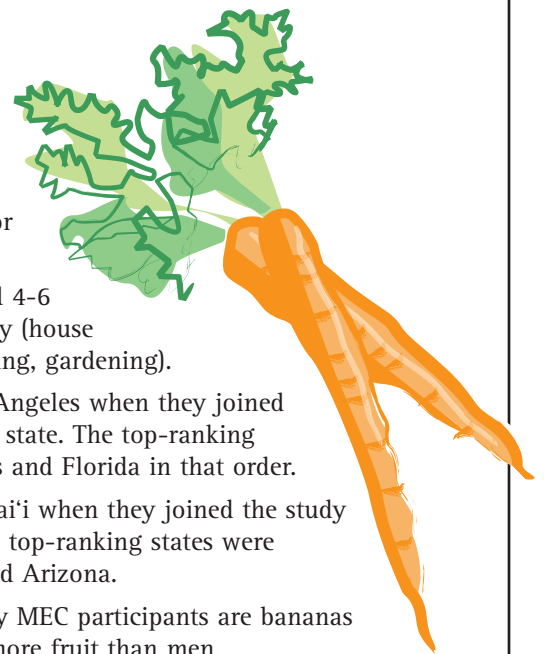
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## SURVEY DATA

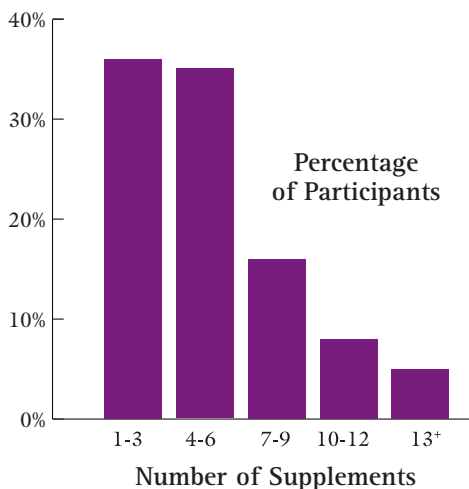
### BASED ON SURVEY DATA THAT YOU REPORTED UPON JOINING THE STUDY

#### Curious Facts

- The most commonly eaten vegetable by MEC participants is carrots.
- Half of the MEC participants reported using a multivitamin supplement at least once a week for the past year.
- 21% of the MEC participants spend 4-6 hours a week in a moderate activity (house work, brisk walking, golfing, bowling, gardening).
- 5,954 participants residing in Los Angeles when they joined the study have since moved out of state. The top-ranking states were Nevada, Arizona, Texas and Florida in that order.
- 9,723 participants residing in Hawai'i when they joined the study have since moved out of state. The top-ranking states were California, Washington, Nevada and Arizona.
- The most commonly eaten fruits by MEC participants are bananas and oranges. Women tend to eat more fruit than men.
- 20% of the MEC participants were not born in the U.S.
- The oldest participants in the MEC study are now 90 years of age. ❖



Number of Different Supplements Taken by SURE Participants During the One-Year Study





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**RECIPE FOR HEALTHY LIVING**

**ORANGE AND WILD RICE SALAD**

Ingredients:

- 1 cup wild rice mix
- 1/2 cup chopped roasted pecans
- 1 cup golden raisins
- 1/3 cup (3 medium) green onions, thinly sliced
- 1/2 cup fresh orange juice
- Grated zest of one orange
- 1/4 cup chopped fresh mint
- 1/2 teaspoon salt or to taste
- Freshly ground pepper to taste

Nutrition analysis

Per serving (1/2 cup)	
Calories	130
Carbohydrate (g)	23
Protein (g)	3
Total Fat (g)	4
Saturated Fat (g)	0
Cholesterol (mg)	0
Fiber (g)	2
Sodium (mg)	100

Rinse the rice thoroughly in cold water in a strainer. Bring 2 cups of water to a boil in a heavy medium saucepan. Add the rice and bring to a boil then simmer and cook for 35 to 40 minutes, or until the rice is soft and the water is gone. Transfer the rice to a bowl and let cool. Add the remaining ingredients to the rice and toss gently. Taste, adjust the seasonings, and let the salad sit for 2 or more hours to allow the flavors to marry. Serve at room temperature. Makes 12 (1/2 cup) servings.

*Source: Cancer Research Center of Hawai'i Cookbook (in preparation)*

**Supplement Reporting (SURE) Study** [continued from page 3]

although there was a tendency to over-estimate the number of pills that they used. A short questionnaire that just asked how often supplements were taken was less accurate than a list of all supplements used over the past two weeks or the past month.

**How will we use the information from the SURE study?**

At the Cancer Research Center of Hawai'i, we are trying to understand if dietary supplement use can change a person's risk of getting cancer, but to do that, we need to accurately measure what supplements they use. The results from the SURE study will allow us to design better ways to ask about supplement use. You will see some changes in the way we ask for this information in future questionnaires sent to the Multiethnic Cohort participants. Furthermore, we will be reporting these results in scientific journals, so that other researchers can also do a better job of asking about supplement use in their own studies. Thank you to all who made the SURE study a success! ❖