Cancer Research Center of Hawai'i
UNIVERSITY OF HAWAI'I
USC

Multiethnic Bulletin

A NEWSLETTER FOR THE PARTICIPANTS IN THE MULTIETHNIC COHORT STUDY

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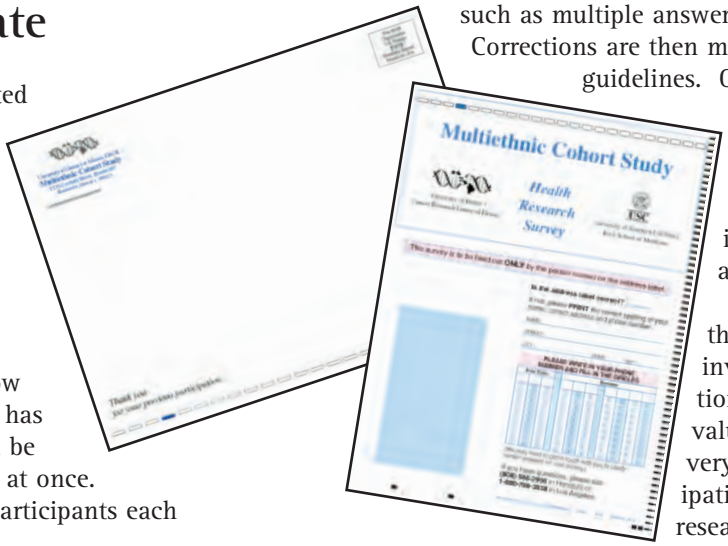
Multiethnic Cohort Update

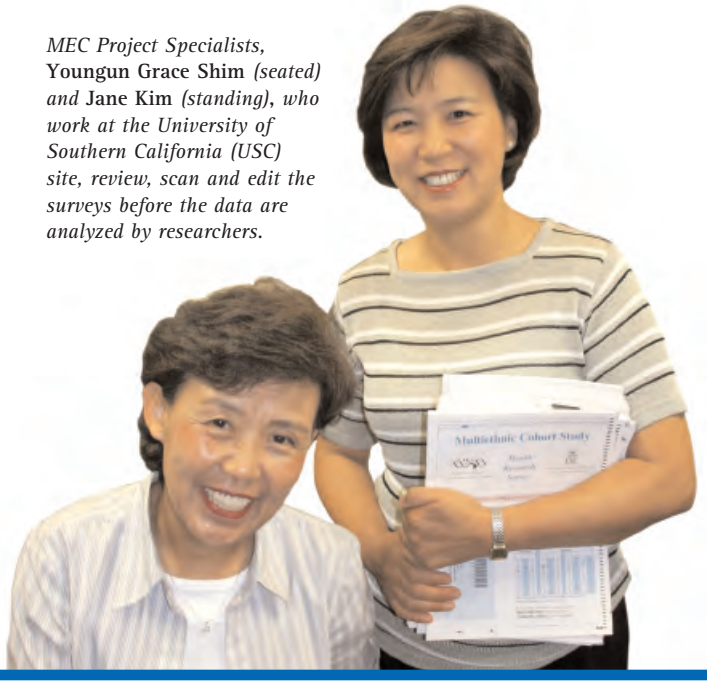
It's been almost 5 years since we first started mailing our new Health Research Survey. All of you filled out a similar survey more than ten years ago when we first started the Multiethnic Cohort (MEC) project. This survey will enable us to see how people's diets have changed over that ten-year period.

This new survey is being mailed to more than 180,000 study participants. We have now nearly completed the mailings. The reason it has taken us so long is that our small staff would be hard pressed to process all the questionnaires at once. Therefore, we mailed to about 40,000 study participants each year over the five-year period.

It is still not too late to return your completed surveys if you haven't yet done so. When a survey form is returned, we record in our computer tracking system that it was received, so that we don't have to send any further reminders to that participant. From there, it is manually reviewed for ink or stray marks and then sent through an optical scanner, which is a machine that reads the bubbled answers that you marked. Once the data are entered into our computer system, they are run through a software program that detects discrepancies, such as multiple answers to one question. Corrections are then made according to preset guidelines. Only after all surveys have gone through several layers of editing can the MEC researchers analyze the information and report any findings.



So, as you can see, the process is quite involved, but the information you provide is most valuable and we treat it very seriously. Your participation is what makes our research possible, and we truly appreciate your efforts!



MEC Project Specialists, **Youngun Grace Shim** *(seated) and* **Jane Kim** *(standing), who work at the University of Southern California (USC) site, review, scan and edit the surveys before the data are analyzed by researchers.*

SUPPLEMENT REPORTING STUDY

We would like to especially thank those of you who have participated in the Supplement Reporting (SURE) Study. Interviewers from this study have visited the homes of over 400 members of the MEC to measure the types of dietary supplements that are being used. Because there is very little information on how long people use different supplements, the interviewers have visited each home five times over a one-year period. We appreciate the willingness of these participants to let us visit them so often.

Other MEC participants have helped the SURE Study by completing and returning a one-page questionnaire about supplement use. Almost 700 people have returned at least one of these short questionnaires.

One of the goals of the study is to find out the best way to ask people about the dietary supplements that they take. For example, we have asked some people to write down which supplements they use each day for up to a month. For people who take many different supplements, this was a lot of work! We've also asked participants to try to remember all the supplements they've taken recently and tell us what they took and how often

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IN THIS ISSUE

IN THE SPOTLIGHT

Biostatistics: A Good Fit for Lynne Wilkens, Dr.P.H.

You can almost feel **Lynne Wilkens, Dr.P.H.**, glowing with enthusiasm and excitement when she talks about the Multiethnic Cohort (MEC) Study that she's been associated with since it began way back in 1988. Dr. Wilkens is an Associate Biostatistician with the Epidemiology Program of the Cancer Research Center of Hawai'i and the director of the Biostatistics Shared Resource of the Cancer Research Center.

Lynne Wilkens, Dr.P.H.

When asked why she became a biostatistician, Dr. Wilkens relates experiencing the death of her father at age 38 from a heart attack. It seemed that very little was known at that time about what caused heart disease or disease in general. She had an aptitude for math, and biostatistics (the application of mathematical techniques to medical data) appealed to her. "It was a nice fit for me. You get to be a member of the research team and contribute valuable expertise to making the best use of the data."

Dr. Wilkens has been involved in various aspects of the MEC Study, including determining its design and sampling frame (the type and number of participants needed), and analyzing the data linking lifestyle risk factors to cancer. She has also been involved in the recent collection of biospecimens (blood and urine) for the MEC Study.

The success of the MEC Study, Wilkens acknowledges, is in large part due to the 215,000 individuals from Hawai'i and Los Angeles who completed the initial questionnaire at the beginning of the study and who continue to participate. She states, "The data are valuable. People have given us a lot of their time and their blood, so we have an obligation to do a good job." She feels that the main importance of the MEC Study is its potential to provide information that can reduce people's risk of disease. For example, figuring out why African American and Native Hawaiian smokers have such a high risk for lung cancer compared to other smokers – which in part may be because of their diets – could help people avoid lung cancer. She claims that the greatest challenge she faces as a biostatistician is in keeping up with the new statistical techniques developed to take advantage of the ever expanding computer capabilities.

In her personal life, she is married and has two cats. When she is not "crunching numbers," she enjoys dancing, movies and scuba diving. ❖

"The data are valuable.
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so we have an obligation to do a good job."

Multiethnic Cohort Update

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they took them. When the study is finished, we will be able to compare these different reporting methods to see which is the most accurate. The results will help us decide how to ask MEC participants about supplement use in the future, and will also provide much-needed information to other investigators who are studying dietary supplement use in other parts of the country.

We have almost finished the data collection for this study, and will be reporting some of our findings to you in the next newsletter.

MILITARY VETERANS' SURVEY

It has not been determined whether military service has any long-term effects on health and longevity. It is possible that veterans have more chronic disease problems and a higher death rate (excluding combat duty) due to job stress or toxic exposures. On the other hand, military personnel are generally more physically fit than the general population (at least while on active duty), which might have long-term health benefits.

Because the MEC provides an opportunity to study these questions, we developed a collaborative project with the Military Cancer Institute in Washington, D.C. In March 2007, we mailed a one-page survey to over 77,000 male participants in the MEC. We asked for basic information on military background that will permit researchers to examine differences in disease risks between veterans and non-veterans in the cohort.

To date, we have received more than 20,000 completed surveys, and we are anxious to receive more. If you received a survey in the mail but have not yet completed it, please help us by returning it as soon as possible. Every completed survey we receive is very valuable!

We would like to extend our deepest appreciation to all of you for your continued support of the Multiethnic Cohort Study! ❖

<SURVEY QUESTIONNAIRE>

How Your Intake of Nutrients Is Calculated from the Survey Questionnaire

In the last newsletter, we talked about the importance of your dietary questionnaires in our studies of diet and cancer in the Multiethnic Cohort. For each questionnaire, we calculate your intake of many different nutrients based on how often and how much you eat of each of the food items. We can then evaluate whether your total intake of a nutrient like sodium (which comes from salt) is high or low. However, to do this calculation accurately, we have to know how much sodium is in every food item on the questionnaire. Where do we find this information? Often, we turn to the US Department of Agriculture (USDA), which publishes an extensive list of nutrients in foods. You can check it out at www.ars.usda.gov/ba/bhnrc/ndl.

For some packaged foods, we also look at the Nutrition Facts Label. You have probably seen this label (sample shown), which is required on almost all packaged food products. It shows the nutrients in a serving of the food. For example, we can find out how much sodium is in different types of vegetables that are sold in the supermarkets by looking at the label. One cup of frozen, unsalted green beans has almost no sodium, whereas a cup of canned green beans has over 500 mg of sodium and a cup of vegetable soup has over 800 mg. Most people should try to keep their total sodium intake under the Daily Value of 2400 mg, so the percent of the Daily Value is also shown on the food label. Someone who ate three cups of vegetable soup would be over 100% of the Daily Value for sodium, because each cup has over 33% of the Daily Value!

The Nutrition Facts Label shows both macronutrients (like fat, protein, and dietary fiber) and micronutrients (like sodium, vitamin C, and several other vitamins and minerals). We usually want to estimate participants' intakes of many different nutrients, and fiber is an example of a macronutrient of particular interest in our cancer studies. Most people eat too little fiber, because they don't choose enough fruits, vegetables, and whole grains. The food label can be a guide to cereals and grains that are high in fiber,

Sample label for Macaroni & Cheese

① Start Here →

② Check Calories

③ Limit these Nutrients

④ Get Enough of these Nutrients

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving

Calories 250	Calories from Fat 110
	% Daily Value
Total Fat 12g	**18%**
Saturated Fat 3g	**15%**
Trans Fat 3g	
Cholesterol 30mg	**10%**
Sodium 470mg	**20%**
Total Carbohydrate 31g	**10%**
Dietary Fiber 0g	**0%**
Sugars 5g	
Protein 5g	
Vitamin A	**4%**
Vitamin C	**2%**
Calcium	**20%**
Iron	**4%**

since it is often difficult to tell if a product like a breakfast cereal is made from whole grains. For example, 1 cup of Raisin Bran has almost 7 grams of fiber, while 1 cup of Corn Flakes has only 1.3 grams of fiber. The Daily Value for fiber is 25 grams.

If you would like to know more about the nutrients in your diet, or in foods that are typically eaten in Hawai'i and California, you can use the Cancer Research Center of Hawai'i's dietary analysis program, PacTrac, at pactrac.crch.hawaii.edu. ❖

Kidney Cancer in the Multiethnic Cohort

Kidney cancer is the eighth most common cancer in the United States. The most frequently-occurring type of kidney cancer is called renal cell cancer and its incidence has been increasing globally. In the U.S., there are projected to be 51,200 new cases and 13,000 deaths from this cancer in 2007.

RISK FACTORS FOR KIDNEY CANCER
- Being Overweight
- Smoking
- High Blood Pressure

PROTECTIVE FACTORS FOR KIDNEY CANCER
- Physical Activity (particularly in women)
- Moderate Alcohol Consumption (particularly in men)

We conducted an analysis of the Multiethnic Cohort (MEC) to identify risk factors for renal cell cancer. Data were available on 161,126 participants. These participants included men and women of different ethnic backgrounds (including African Americans, Japanese Americans, Latinos, Native Hawaiians, and whites) who live in Hawai'i and California. Cases of renal cell cancer were identified by computer linkage of the MEC to tumor registries in Hawai'i and California that record all new cases of cancer in these states.

We found that obesity was a risk factor for renal cell cancer in the MEC participants. Obesity was assessed by computing the body mass index (BMI) value for each member of the cohort, based on his or her height and weight. A normal BMI is any value less than 25.0, overweight is a value from 25.0 to 29.0, and obese is a value of 30.0 and above. Among women, an elevated risk for renal cell cancer was observed starting with a BMI of 25.0, and the risk continued to increase as the BMI went up from there. Among men, the elevated risk started at a BMI of 30.0 and also increased as the BMI went up. A possible reason why obesity increases the risk of renal cell cancer is that overweight raises the levels of certain factors in the blood, such as insulin and estrogens that promote the growth of tissues.

The analysis also showed that smoking increases the risk of renal cell cancer in both sexes. Participants who currently smoke and have a long history of smoking are at the greatest risk. On the other hand, the analysis showed a decreased risk of renal cell cancer associated with moderate alcohol consumption and greater physical activity. The

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RECIPE FOR HEALTHY LIVING

CARROT ZUCCHINI BARS

Incorporating vegetables and fruits into baked goods is another way to increase your daily servings. These delicious bars are made with whole wheat pastry flour, carrots, zucchini, fruits, and nuts.

Nutrition analysis

1 bar (24 bars per recipe)

Calories	165
Protein (g)	3
Total Fat (g)	8.5
Saturated Fat (g)	2
Cholesterol (mg)	23
Carbohydrate (g)	21
Total Fiber (g)	1.5

Ingredients:

- 3/4 cup whole wheat pastry flour
- 3/4 cup white flour
- 3/4 cup packed brown sugar
- 1 tsp baking powder
- 1/2 tsp cinnamon
- 1 tsp ground ginger
- 1/2 tsp baking soda
- 2 eggs, lightly beaten
- 1-1/2 cups packed (4 medium) carrots, shredded
- 1 cup packed (1 medium) zucchini, shredded
- 1 cup dried cranberries or blueberries
- 1/2 cup chopped walnuts
- 1/2 cup vegetable oil
- 1 tsp vanilla

Frosting:

- 1 8-ounce package low-fat cream cheese
- 1/2 cup powdered sugar, sifted
- 2 Tbsp orange juice
- 1 Tbsp finely shredded orange zest

Preheat the oven to 350 degrees. In a large bowl stir together the flours, brown sugar, baking powder, cinnamon, ground ginger, and baking soda. In a medium bowl combine the eggs, carrots, zucchini, cranberries, walnuts, oil, and vanilla. Add the carrot mixture to the dry ingredients and stir with a wooden spoon until just combined. Pour the batter into a greased 13 x 9 x 2-inch pan and bake for about 25 minutes, or until a small knife inserted near the center comes out clean. Cool in the pan on a wire rack.

To prepare the frosting, place the ingredients in a medium bowl and beat on medium speed until light and fluffy. Spread the frosting over the cake and cut it into bars. Store covered in the refrigerator. Makes 24 (about 2" square) bars.

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

Kidney Cancer in the Multiethnic Cohort [continued from page 3]

protective effect from moderate alcohol intake was seen in men but not women (possibly because alcohol consumption is very low among women in the MEC), whereas the protective effect from physical activity was seen in women but not men (for unknown reasons). Clearly, additional studies are needed to confirm these protective effects and to explain the differences between findings in men and women.

One medical condition was associated with renal cell cancer risk in the cohort. This was high blood pressure, which showed an increase in risk in both men and women. The reason for this effect on kidney cancer may relate to increased production of molecules that damage cells and promote tumor development in individuals with high blood pressure.

In conclusion, obesity, smoking, and high blood pressure are all risk factors for kidney cancer in the Multiethnic Cohort. Elimination of these risk factors might have prevented more than half of the renal cell cancer cases in the study participants. ❖

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