



Multiethnic

BULLETIN

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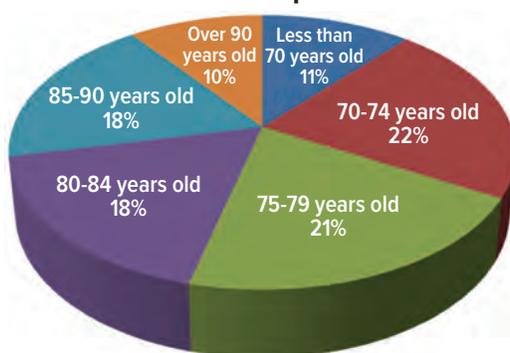
Multiethnic Cohort Update

Every Completed Survey Counts

As a valuable member of the *Multiethnic Cohort Study (MEC)*, you should have received the *Follow-Up Health Survey*. We have completed mailing our current survey to more than 130,000 study members since we started this phase of the study in January 2014. We mailed the survey again if we did not hear back from you. This is because your answers are invaluable to our research. It is not too late to turn in your completed survey. If you prefer to complete the survey over the phone, or wish to have another copy of the survey sent to you, please contact us at the phone numbers listed on page 2. We always look forward to hearing from you. Your participation is extremely important, since no one can replace you. It is crucial that our members who helped to start the study in 1993 continue to participate by providing updated information as the years go by.

The goal of the current survey is to investigate factors that lead to healthy aging and improved cancer survivorship. The form includes questions about medical conditions, medication usage, and daily living and social activities. There are more than 28,000 cancer survivors among MEC participants. Currently, the youngest member of the MEC study is 68 years old and the eldest is 98. Forty-six percent of MEC

Age Distribution of MEC Participants



members are 80 years and older (see chart). This new survey, together with the information we have collected from you during the past 20 years, will provide crucial data about how we can stay healthy as we age. We kindly urge you to mail in your completed survey if you haven't done so already, and we are sincerely grateful for your continued participation!

The MEC Biorepository

We continue to expand and enhance our vast collection of biospecimens that make up the MEC biorepository. We have been requesting additional samples (stool, saliva) and health records, and many of you have graciously agreed to help us.

The MEC biorepository that you helped build by donating blood and urine samples serves as a valuable resource to many scientists doing innovative research worldwide. For example, we

recently collaborated with scientists at Vanderbilt University Medical Center and the German Cancer Research Center in Heidelberg, Germany. (As you know, these specimens are used anonymously, and your name is never associated with them.) Specimens and relevant data from the MEC are being used to explore the relationship of *Helicobacter pylori* infection and a person's risk of developing colorectal cancer.

H. pylori are bacteria that commonly infect the upper digestive tract and have previously been associated with duodenal ulcers, gastritis and gastric cancer. Now, scientists are interested in better understanding the role of *H. pylori* in colorectal cancer. Research studies such as this will help build the groundwork for significantly strengthening colorectal cancer prevention and screening strategies, with a new risk biomarker. While the research is still ongoing, knowledge is being furthered with the help of the MEC biorepository.

If you have recently moved or have a new phone number, please call us at one of the phone numbers listed on page 2 or visit our website to ensure that you will receive future mailings.

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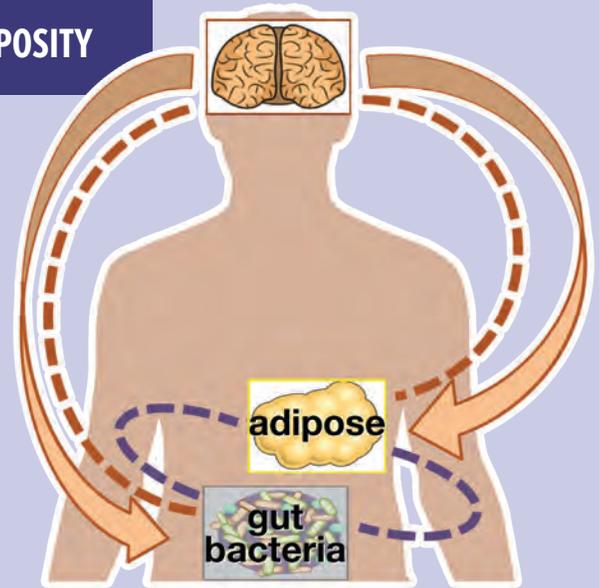
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A NEW MEC STUDY

on the Relationships of the BRAIN, GUT BACTERIA, & ADIPOSITY

“**G**ut feelings”, “the second brain” – these are some expressions that remind us of the close connection between the brain and the gut (gastrointestinal tract). The brain regulates the body’s overall metabolism and affects the environment of intestinal bacteria. The gut microbes, in turn, have an effect on the brain by generating neuroactive compounds that are able to modify our mood and appetite. As part of the *MEC Body Imaging Study*, this exciting new project is investigating the structure, chemistry, and neural connections within the brain using magnetic resonance imaging (MRI). These measurements will be related to gut microbes of individuals with low or high levels of intra-abdominal fat, to see how certain bacteria and excess internal fat act together to affect the brain.



A new MEC study will investigate the relationship of the brain, gut bacteria, and adiposity, to see how certain bacteria and excess internal fat act together to affect the brain.

Dietary Patterns and the Multiethnic Cohort

In the past, one’s diet and the connection to certain diseases focused on select nutrients or individual foods.

In recent years, researchers and clinicians have begun to appreciate the importance of the way people eat, involving combinations of foods that interact together in different ways. The complexity of these food and beverage combinations has shifted the focus toward examining how foods are eaten together. ‘Dietary patterns’ refer to the quantities, proportions, variety or combination of different foods, drinks, and nutrients in diets, and how often they are consumed. The quality of an individual’s intake can be determined by examining dietary patterns, and the higher quality patterns have been linked positively with health and longevity.



In order to more fully examine the health impact of these dietary patterns, the *Dietary Patterns Methods Project*, referred to as DPMP, was initiated by the National Cancer Institute. Researchers from the University of Hawai‘i Cancer Center were asked to be a part of this project, along with researchers from the Fred Hutchinson Cancer Research Center and researchers at the University of South Carolina. First, the investigators spent time selecting the dietary patterns thought to play the largest role in promoting health.

After much examination, four dietary indexes were selected. The ‘Healthy Eating Index 2010 (HEI-2010)’ reflects the U.S. government’s 2010 Dietary Guidelines for Americans, and a higher score indicates better adherence

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If you have any questions about the study, please call:
1-800-786-3538 (Toll free in California) • (808) 586-2996 (Oahu)
1-877-415-8323 (Toll free in Hawai‘i)

MEC Investigators Named to “World’s Most Influential Scientific Minds” List for 2015

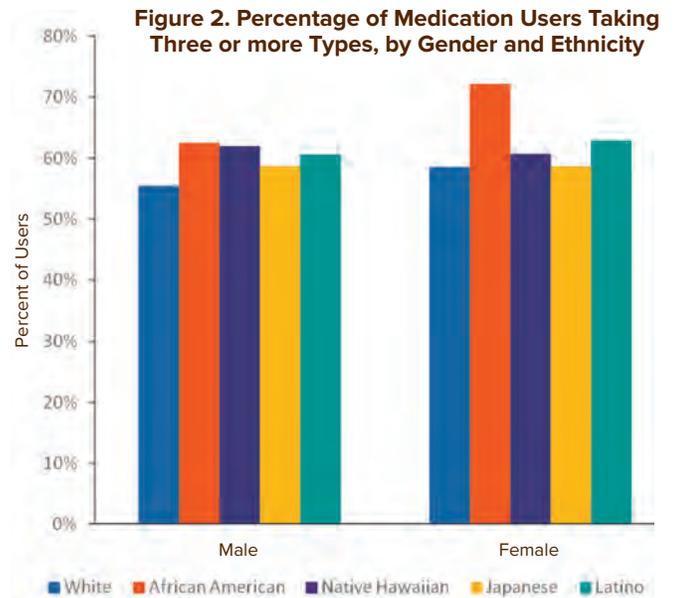
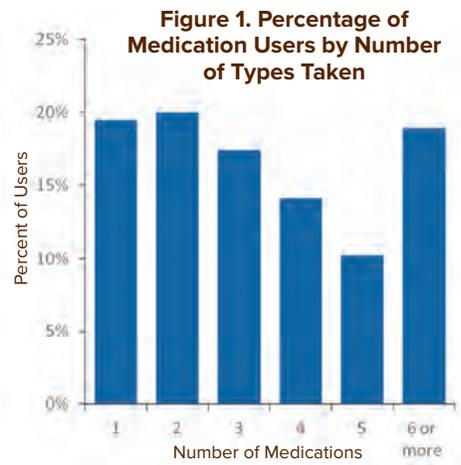
Loïc Le Marchand, M.D., Ph.D., Principal Investigator of the *Multiethnic Cohort Study* and Professor of Epidemiology at the University of Hawai‘i Cancer Center, **Laurence N. Kolonel, M.D., Ph.D.**, Emeritus Professor in the Office of Public Health Studies at the University of Hawai‘i and co-founder of the *Multiethnic Cohort Study*, and the late **Brian E. Henderson, M.D.**, Kenneth T. Norris Jr. Distinguished Professor of Preventive Medicine at the University of Southern California Keck

School of Medicine and also a co-founder of the *Multiethnic Cohort Study* have been named to the *Thomson Reuters’ World’s Most Influential Scientific Minds and Highly Cited Researcher* lists. Drs. Le Marchand, Kolonel, and Henderson were selected based on having the most highly cited papers among fellow researchers, which means their peers identified their contributions as being among the most valuable and significant in their respective field.

Medication Usage in the Multiethnic Cohort

At the time we collect blood and urine samples from members of the Multiethnic Cohort, we ask for a list of all prescription and other over-the-counter medications and supplements that were taken in the past two weeks. We ask participants to assemble all of their medication and supplement bottles, and to read to us the name of each product with the brand and dose. We need this information to help us interpret the results we obtain when we analyze the blood or urine in the laboratory. For instance, people who were diagnosed with high blood cholesterol may have lower levels now because they are on medication. We currently have 241,461 medications reported from 66,387 cohort members.

Medications use is very common among Multiethnic Cohort participants. The most commonly reported medications were: 1) drugs to treat hypertension, at 61%; 2) non-steroidal anti-inflammatory drugs (NSAIDs), such as aspirin and ibuprofen, at 43%; 3) drugs to treat high cholesterol, at 38%; and 4) diabetes medications, at 17%. Use varied by ethnicity. The highest use was reported for hypertension medications among African Americans, for diabetes medications among Latinos, for cholesterol-lowering medications among Japanese, and for NSAIDs among whites. Eighty percent of individuals reporting medication use took more than one type, and 20% took six or more types, as shown in Figure 1 (Figure 1 to the right). The majority of users for all sex and ethnic groups reported taking three or more medication types (Figure 2 to the right).





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Dietary Patterns and the Multiethnic Cohort

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to these federal guidelines. The 2010 Dietary Guidelines for Americans emphasizes high intakes of seafood and plant protein, a higher ratio of polyunsaturated and monounsaturated fats versus saturated fats, and low intakes of refined grains and empty calories (from solid fats and added sugars). The 'Alternative Healthy Index 2010 (AHEI-2010)' reflects a more vegetarian application of the Dietary Guidelines for Americans. The 'alternative Mediterranean Diet (aMED) Index' is the primary pattern recommended in Europe. The 'Dietary Approaches to Stop Hypertension (DASH) Index' promotes eating whole grains, limiting foods high in saturated fat, sugar, and sodium, and has been shown to reduce high blood pressure.

MEC Investigators applied these four indexes using data from the MEC participants. Higher scores on each of the four indexes were associated with a reduction in mortality risk for both men and women. In people whose diets scored the highest on any one of the indexes, men had a 17-26% lower risk of mortality from all causes, cardiovascular diseases or cancer; and women had an 11-24% reduction in risk of these same outcomes. Overall, greater adherence to any one of the indexes was associated with lower risk of mortality across diseases. The findings suggest that following any one of these four healthy dietary patterns would benefit adults in the U.S.



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