UNIVERSITY OF HAWAI'I CANCER CENTER
USC University of Southern California

A Newsletter for the Participants of the Multiethnic Cohort Study

Multiethnic BULLETIN

VOL 19 SUMMER 2019

Multiethnic Cohort Update

25th Anniversary of the MEC Celebrated in Honolulu, Hawai'i

The inclement weather forecast for September 15, 2018 did not dampen the enthusiasm or energy of the many volunteers who worked tirelessly with one goal in mind – and that was to create a memorable 25th anniversary celebration in honor of the MEC participants for their dedication to cancer research during the past 25 years! It turned out to be a beautiful sunny day and the celebration at the University of Hawai'i Cancer Center was held in style. The attendance of more than 400 participants and guests created a warm ambience that was impressive and very meaningful to the MEC investigators, staff and the Center. It was our time to give back to those who committed so much of their time to the MEC for so many years.

The celebration opened with an oli (traditional Hawaiian chant) and a hula (traditional Hawaiian dance) performance by a group known as the Pink Ladies of Hula. In 2014, these women participated in a research study investigating the beneficial effects of hula among cancer survivors. This special group met twice a week at the Center to learn hula, and enjoyed it so much that they continue to dance together until today, years after the

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Dr. Loïc Le Marchand speaks to the audience about discoveries from the MEC.

In Honor of MEC Founder

Laurence N. Kolonel Endowed Research Professorship

Dr. Laurence N. Kolonel, MD, PhD, Professor Emeritus at the UH Cancer Center.

The University of Hawai'i Cancer Center (UHCC) has embarked on a goal to raise $500,000 through philanthropy in honor of Laurence N. Kolonel, MD, PhD, Professor Emeritus at the UH Cancer Center. Dr. Kolonel is one of the MEC founders and served for 30 years as director of the Epidemiology Program at UHCC. He is a world-renowned scholar in the fields of epidemiology and prostate cancer, and has published more than 600 scientific articles. He was honored by the National Institutes of Health for his research on diet and cancer and, is a recipient of the prestigious *American Association for Cancer Research-American Cancer Society Award for Research Excellence in Cancer Epidemiology and Prevention*. He has been the esteemed mentor of many trainees and junior faculty members at the University of Hawai'i. Donations will establish the *Laurence N. Kolonel Endowed Research Professorship* at the UHCC to provide research support to a promising junior researcher working with the Multiethnic Cohort Study.

For more information or to make a monetary donation, please contact Todd Cullison, Associate Director of Development at (808) 356-5757 or *todd.cullison@uhfoundation.org*.

If you have recently moved or have a new phone number, please call us at 1-800-786-3538 (Toll free in California) • (808) 586-2996 (Oahu) • 1-877-415-8323 (Toll free in Hawai'i) or visit our website at *www.uhcancercenter.org/mec*

Air Pollution and Breast Cancer Risk among Californian Women in the MEC

VEHICLE EXHAUST IS AN IMPORTANT SOURCE OF AIR POLLUTION IN CALIFORNIA, A STATE THAT CONTINUES TO LEAD THE NATION IN THE NUMBER OF REGISTERED VEHICLES AND IN GASOLINE USE.

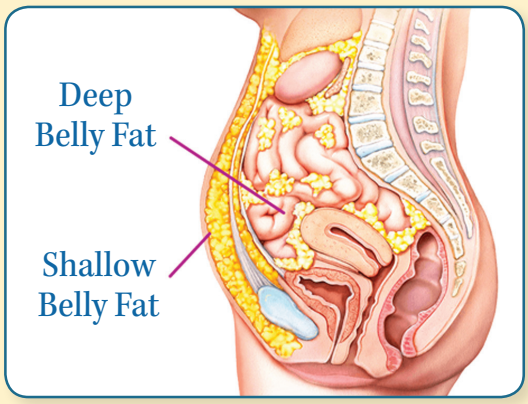
Vehicle exhaust contains thousands of chemicals and particulates (microscopic solid or liquid matter suspended in the air), including cancer-causing agents. While there is a well-established link between air pollution and lung cancer, research is needed to understand its role in other cancers.

An analysis was conducted on 57,589 women in the MEC, who resided in California in 1993-2010. Among these women, approximately 2,700 were diagnosed with breast cancer. We estimated air pollution exposure for the women over a 17-year period by matching residential addresses to the nearest statewide air monitoring data available. We then tested the association between air pollution and risk of breast cancer. For those women who lived within 500 meters of a major road, we found that there was an increased risk of breast cancer associated with higher exposure to gaseous pollutants (nitric oxides) and particulates. Both are markers of traffic-related air pollutants.

While additional studies are needed, these findings are important as they suggest that near-roadway air pollutants play a role in breast cancer, supporting public policies to regulate levels of air pollution.

Diet Quality, Deep Belly Fat and Fatty Liver among MEC Participants

Diet quality is determined by the amount and variety of different foods, drinks and nutrients in the diet and can be scored using a diet quality index like the Healthy Eating Index-2010 (HEI-2010). We found in the MEC that people following the highest quality diets had lived longer. We also showed that the diets of MEC participants were of higher quality than the US population overall. On average, participants from the MEC scored 67.5 out of a possible 100 on the HEI-2010 score, compared to 57.8 for the overall US in 2009-2010.



The MEC Adiposity Phenotype Study (MEC-APS) took place in 2013-2016 and recruited 1,800 MEC participants to provide information on their current diet. They also had body scans to measure body fat mass using Dual Energy X-ray Absorptiometry (DXA) and Magnetic Resonance Imaging (MRI). We were able to use these data to look for the relationship between diet quality and amount of deep belly fat and liver fat. Fat deposited in these areas are more strongly linked to chronic diseases, such as heart disease, diabetes and some cancers, than the body fat found just under the skin.

We found that participants with the highest (best) diet quality scores were 52% less likely to have high levels

Type 2 Diabetes as a Predictor of Mortality among Cancer Patients in the Multiethnic Cohort (MEC)

As treatments for cancer have improved, there is growing research interest in other medical conditions that may shorten life in cancer patients. MEC researchers recently studied how type 2 diabetes affects the survival of cohort members diagnosed with breast or colorectal cancer.

Between 1993 and 2013, among MEC members, 7,570 women were diagnosed with breast cancer and 3,913 men and women were diagnosed with colorectal cancer. Pre-existing diabetes was common: 1,013 of breast cancer patients and 707 of colorectal cancer patients were diagnosed with diabetes before developing cancer.

During the 20-year follow-up, 38% of the breast cancer patients died. Among the 10% of patients who died due to the progression of their cancer, there was no difference in life expectancy between women with and without diabetes. However, among the remaining 28% of the breast cancer patients who died from other causes, such as heart disease or stroke, risk of death was 23% higher in women with diabetes, especially in women who had a long history of living with diabetes.

Also during the 20-year follow-up, 46% of the colorectal cancer patients died; 17% of those patients died due to their cancer. Overall, colorectal cancer patients with diabetes did not experience shorter survival than those without. However, those with a long diabetes history or those who were diagnosed with a chronic condition in addition to diabetes, such as heart disease, were more likely to experience an earlier death.

These results show how important it is to take care of your overall health status and to prevent or control risk factors for type 2 diabetes and heart disease by maintaining a healthy weight, a healthful diet and adequate physical activity. These actions reduce the risk of getting cancer and of dying after cancer diagnosis.

of deep belly fat. They were also 38% less likely to have fatty livers than those with the lowest (worst) scores. The results were true even when the study participants with the same total amount of body fat were compared.

These results are particularly important for people of Latino, Asian and Native Hawaiian ancestry, since these groups were found in the MEC-APS to have a higher amount of liver fat and/or deep belly fat compared to other ethnic groups, even with a similar height and weight. The main take-home message here is that eating a healthful, high-quality diet long-term can help to reduce the risk of chronic diseases. The figure below outlines some simple tips to help achieve a high-quality diet. Also, examples of high-quality diets can be found at ***www.choosemyplate.gov***.

Focus on whole fruits

Include fruit at breakfast! Top whole-grain cereal with your favorite fruit, add berries to pancakes, or mix dried fruit into hot oatmeal.

Vary your veggies

Cook a variety of colorful veggies. Make extra vegetables and save some for later. Use them for a stew, soup, or a pasta dish.

Vary your protein routine

Next taco night, try adding a new protein, like shrimp, beans, chicken, or beef.

Make half your grains whole grains

Add brown rice to your stir-fry dishes. Combine your favorite veggies and protein foods for a nutritious meal.

Move to low-fat or fat-free milk or yogurt

Enjoy a low-fat yogurt parfait for breakfast. Top with fruit and nuts to get in two more food groups.

Drink and eat less sodium, saturated fat, and added sugars

Cook at home and read the ingredients to compare foods.

Adapted from the USDA Center for Nutrition Policy and Promotion.

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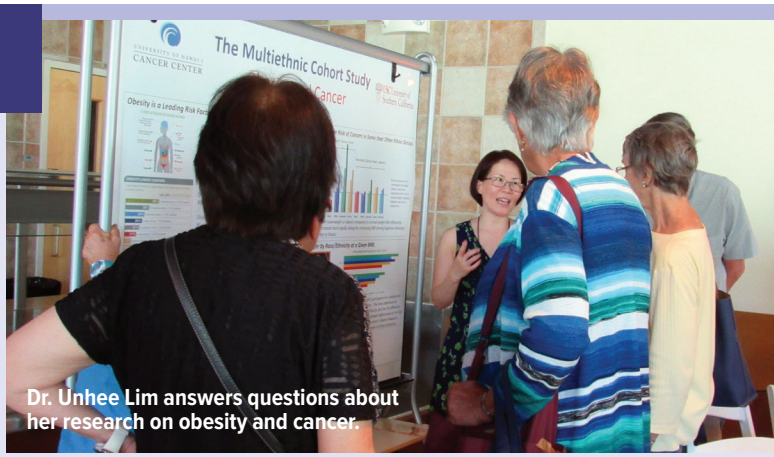
study ended. The dance was followed by distinguished guest speakers, the recognition of the MEC founders and a nice lunch. Many guests embraced the opportunity to browse the lobby of the Center to check out the more than 20 poster presentations prepared by MEC researchers who shared their findings and answered questions. September 15, 2018 will always be remembered as a special day. Heartfelt thanks to all of you for your continued support over these many years!



Dr. Unhee Lim answers questions about her research on obesity and cancer.

What's New?

New Follow-Up Health Survey

After many months of planning, MEC Investigators are pleased to bring to you a new *Follow-Up Health Survey*. As lifestyles and habits have changed over the years, it is important for us to obtain updated information from you to expand our research and continue investigating associations with cancer among the diverse ethnic groups of the MEC. This *Follow-Up Health Survey* will be mailed to only a subset of people in the MEC who, as of February 1, 2018, were 77 years of age or younger. The survey will be mailed to eligible MEC participants through the fall of 2020.

We Have a New Look on the Web!

We are excited to inform you that we have a new website (***uhcancercenter.org/mec***). We have added more pages and new features. You will find specific information on the MEC, answers to frequently asked questions, past Bulletins, the research posters that were displayed at the recent 25th anniversary celebration and much more! We encourage you to visit our website on a regular basis to catch up on the latest MEC findings. Also, by clicking on the PARTICIPANTS label, you can easily update your information in case you have changed your name, or have a new address, phone number or email address. This will ensure that you will receive future mailings of our health surveys and the annual *Multiethnic Bulletin*.