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

A Newsletter for the Participants of the Multiethnic Cohort Study

Multiethnic BULLETIN

VOL 18 SUMMER 2018

Multiethnic Cohort Update

Celebrating 25 Years of Cancer Research

The Multiethnic Cohort Study (MEC) is celebrating its 25th anniversary! Words cannot express our heartfelt thanks to all of you for your dedication and commitment to cancer research for 25 years. It has been a journey but so much has been achieved, thanks to your participation.

Epidemiologic cohorts are large population studies in which groups of people with a set of characteristics or exposures are prospectively followed over many years for disease occurrence. Data from cancer cohort studies, such as the MEC, help researchers to better understand the lifestyle and genetic causes of this complex disease.

All thanks to you, this research has resulted in significant findings about risk factors for cancer that have led to specific recommendations made to the public to reduce the risk of this and other chronic diseases. The MEC has also shown how much the rates of various kinds of cancer vary among different ethnic groups and has prompted research on the reasons for such disparities and how to address them. Only by including as many different people as possible and following them for decades can we hope in our research to identify those characteristics that place some of us at higher risk of cancer. Each and every one of the MEC participants has provided important clues to the causes of cancer. A list of scientific publications from the MEC is provided on our website at *www.uhcancercenter.org/mec*.

How the MEC was Established 25 Years Ago

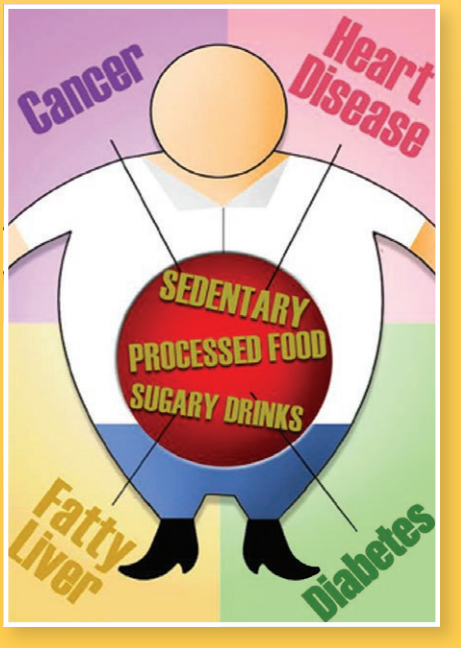
In 1993-1996, the MEC cohort was established by Dr. Laurence Kolonel at the University of Hawai'i and Dr. Brian Henderson at the University of Southern California; 216,000 men and women, aged 45 years to 74 years old, who were residents of the State of Hawai'i and Los Angeles metropolitan area, enrolled in the study by

Continued on Page 4

Reducing Intra-Abdominal Fat through a Healthy Diet and Exercise

In a subgroup of 1,861 MEC participants who underwent a DXA and abdominal MRI scan for a study on obesity, we observed differences among ethnic groups in the body areas where we store fat when we gain weight. Those who had a tendency to accumulate body fat in and around abdominal organs were more often Japanese American, Latino or Native Hawaiian, and less often African American. This intra-abdominal fat is more likely to cause chronic diseases, like Type 2 diabetes, heart disease and certain cancers, compared to the fat in the buttocks

Continued on Page 4



Intra-abdominal fat increases the risk of chronic diseases and may result from a sedentary lifestyle and excessive consumption of processed foods and sugary drinks.

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*

UPDATE ON THE HEALTHY EATING INDEX AMONG MEC PARTICIPANTS

The Healthy Eating Index is used to monitor how well people in the United States are following the current Dietary Guidelines for Americans or, essentially, how well people are eating. The Healthy Eating Index includes food groups to eat more of and food groups to limit. Foods to eat every day are the fruits, vegetables, whole grains, low-fat milk or yogurt, protein foods (e.g. fish, chicken), and vegetable oils. Foods to limit are high in saturated fat, added sugars, and salt.

For this newsletter, we thought you would be interested to see the Healthy Eating Index-2015 scores of MEC participants. **Table 1** below breaks down the overall Healthy Eating Index-2015 score into seven recognizable food groups with scores for each food group ranging from 100 (perfect) to zero (very poor).

Almost all men in MEC met the Protein Foods group recommendation which includes fish, beef, chicken, pork, eggs, and beans (e.g. chick peas, kidney beans). Some men received perfect scores for Fruits and Vegetables, while others had low scores. All men received low scores for Grains which means a low intake of whole grains, such as brown rice and whole grain noodles. Another consistent low score was for Dairy which could be improved with milk or yogurt, foods with a wider variety of choices than in the past.

In general, the women's scores were higher than the men, indicating their diets are closer to the recommendations. The exception is the "Limit" group, where men's scores are higher or better. The "Limit" group can be improved by reducing intake of added sugars, saturated fat (solid fats), and salt. Similar to men, almost all the women met the recommendation for the Protein Foods group, and the scores for Grains and Dairy groups need improvement.

The Dietary Guidelines emphasize overall eating patterns or the importance of a combination of foods and beverages to consume on a daily basis. For more information about how to achieve a higher quality diet, check out the ChooseMyPlate.gov link below for Hawai'i residents and California residents.
https://www.choosemyplate.gov/hawaii OR
https://www.choosemyplate.gov/california

Table 1. Summary of Healthy Eating Index-2015 scores by food groups for MEC participants by men and women. The scores shown are for the 20% MEC members with the highest overall scores and for those 20% with the lowest overall scores. In this table, the highest possible score by food group is 100 and the lowest score is 0. Arrows designate which food group to eat more (▲) of or less (▼) of.

Eat ▲ or ▼	▲	▲	▲	▲	▲	▲	▼
Food Groups	Fruits	Vegetables	Grains	Dairy	Protein	Oils	Limit
SCORES:			**MEN**				
Highest	100	100	40	40	100	80	88
Lowest	40	40	30	30	95	50	55
SCORES:			**WOMEN**				
Highest	100	100	90	50	100	80	60
Lowest	65	70	20	30	95	50	55

MEC Researchers Study How Differences in Our DNA Contribute to One's Risk of Cancer

Over the past 15 years, there has been much advancement in genetic research that has led to a better understanding of how our genes influence the risk of cancer. For example, the sequencing of the human genome (the inherited genetic information contained in our DNA) allowed for the genome-wide description of genetic variation (differences) in humans. This information, in addition to recent technological innovations, has provided researchers with the necessary tools to more comprehensively identify which inherited genetic differences may be related to cancer risk. The blood and saliva samples provided by MEC participants have been critical for these studies and advancements in the field.

An example of such research is work in prostate cancer led by MEC researchers using genetic data from MEC participants together with genetic data from many other studies worldwide (more than 200,000 participants in total!). This large effort has revealed more than 200 sequence differences in our DNA that contribute to prostate cancer risk, with some appearing to have a larger impact in certain racial/ethnic groups than in others. MEC researchers are also heavily involved in similarly large studies in breast, colorectal and lung cancer.

While genetics is clearly important, lifestyle factors are at least equally or more important, depending on the cancer type. MEC researchers have also started to utilize the questionnaire information collected from MEC participants to investigate how our genes interact with lifestyle factors to alter risk for cancer. These studies require even larger numbers of participants!

MEC CELEBRATES ITS 25TH ANNIVERSARY!

CELEBRATING 25 YEARS OF RESEARCH

A 25th anniversary celebration will be held in honor of MEC participants for their dedication to cancer research over the past 25 years. The event will be held in Honolulu, Hawai'i at the University of Hawai'i Cancer Center on **September 15, 2018**. The event will also be streamed live on September 15 starting at 9:00 a.m. HST/noon PST at: **www.facebook.com/UHCancerCenter**.

"It takes a community... The Multiethnic Cohort Study turns 25 this year! It is time to take stock and celebrate all what we accomplished together. But most of all, it is an opportunity to thank each and every one of you, the participants, for your dedication to the study. The MEC would not exist without you. Thank you."

Loïc Le Marchand, M.D., Ph.D., *Principal Investigator*, University of Hawai'i Cancer Center

"The Multiethnic Cohort Study has led to a better understanding of the factors leading to cancer and other diseases for all Americans. This has been possible only because of the generosity of the study participants and the talent and commitment of the study researchers and staff."

Lynne Wilkens, DrPH, *Principal Investigator*, University of Hawai'i Cancer Center

"It has been an honor to be involved in such a valuable cancer research study. To understand cancer in the U.S. and globally we need to study a wide range of racial and ethnic populations. The dedication of the MEC participants has made this possible and we are deeply grateful."

Christopher Haiman, Sc.D., *Principal Investigator*, University of Southern California Keck School of Medicine

UNIVERSITY OF HAWAI'I
CANCER CENTER

Multiethnic Cohort Study
701 Ilalo Street, #207
Honolulu, Hawai'i 96813

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Multiethnic Cohort Update

Continued from Page 1

completing a 26-page cancer research questionnaire. Every person who completed the initial survey helped to launch the long-term study and became a MEC cohort member.

Sixteen pages in the initial questionnaire asked about eating habits to investigate dietary risk factors for cancer. Other questions were about vitamin usage, medication history, work history, physical activity and if immediate family members ever had certain types of cancer. Follow-up questionnaires were sent every five years to update participants' information. Blood and urine were also collected from 70,000 willing cohort members mostly in 2001-2005. A number of sub-studies were also conducted requiring the collection of additional data and biospecimens on sub-groups of participants.

What's Ahead?

In recognition for its exceptional contributions, the Multiethnic Cohort Study's main funding was renewed by the National Cancer Institute for another five years! A new short follow-up survey will be mailed to MEC participants between now and the end of 2021.

We will continue to send you our annual Multiethnic Bulletin to update you on our research.

Reducing Intra-Abdominal Fat through a Healthy Diet and Exercise

Continued from Page 1

or right under the skin. Last year, we conducted a small study in Honolulu, Hawai'i, to investigate whether intra-abdominal fat can be preferentially reduced by following a healthy diet and lifestyle. Healthy but overweight volunteers of East Asian ancestry were randomly assigned to one of two different test diets and regular exercise. Participants followed their assigned lifestyle for three months and were examined for changes in body fat amount and distribution. The results are promising that central obesity can be reduced and we are designing a new study to expand these findings for which we will seek funding from the National Cancer Institute. Stay tuned!

USC University of Southern California
Keck School of Medicine
Multiethnic Cohort Study
1441 Eastlake Avenue, NTT 4455
Los Angeles, CA 90089

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