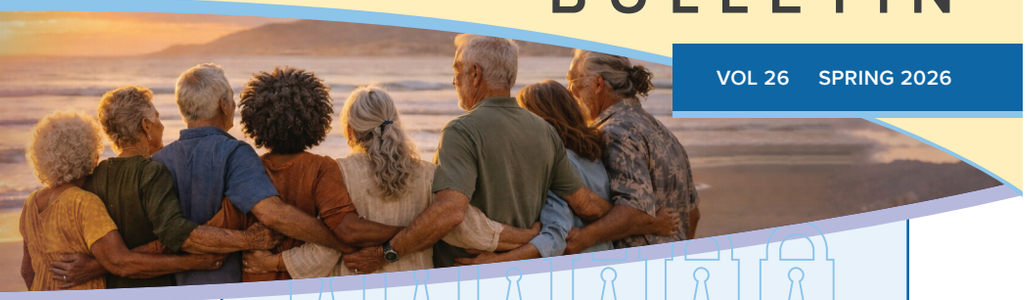
UNIVERSITY OF HAWAI'I CANCER CENTER
USC University of Southern California

A Newsletter for the Participants of the Multiethnic Cohort Study

Multiethnic BULLETIN

VOL 26 SPRING 2026



Our Shared Journey – MEC Reflections

The goal of the Multiethnic Cohort (MEC) Study has always been to help achieve **Health Equity** by contributing to a better understanding of how biology, lifestyle and the environment interact to explain differences in the rates of chronic diseases across our local populations. For over 30 years, our journey has been defined by a commitment to representing the diversity of our communities. By following over 215,000 residents of Hawai'i and California, we have moved beyond "one-size-fits-all" medicine to uncover why certain diseases affect specific ethnic groups disproportionally.

We recognize that health research isn't just about finding treatments for one disease; it's about understanding the "why" behind the conditions that affect our participants so differently, creating a **legacy that benefits our families and future generations.**

Reflecting on this journey is about more than celebrating research; it is about celebrating our communities. Your commitment brings us closer to a future where healthcare can be more uniquely tailored to your circumstances. Because of your participation, we are realizing a world where:

- **Prevention is personalized** through guidelines tailored to your background.
- **Environmental insights** reveal how our surroundings shape our lifelong health.
- **Equity in aging** ensures that the keys to a long, vibrant life are accessible across all cultural and social boundaries.

INCIDENT INVOLVING THE MEC DATA

On or about August 31, 2025, the University of Hawai'i (UH) Cancer Center was the victim of a cyberattack isolated to specific systems that support its Epidemiology Division. The unauthorized third party encrypted large amounts of data, and provided proof that it had potentially exfiltrated a portion of that data. Files containing personal information (names, social security numbers) that identified MEC participants, as well as other files with questionnaire information were potentially exposed. We promptly took affected systems offline to stop the unauthorized access and mitigate risk to data. Experts were immediately engaged by UH to investigate and determine the nature and scope of the incident.

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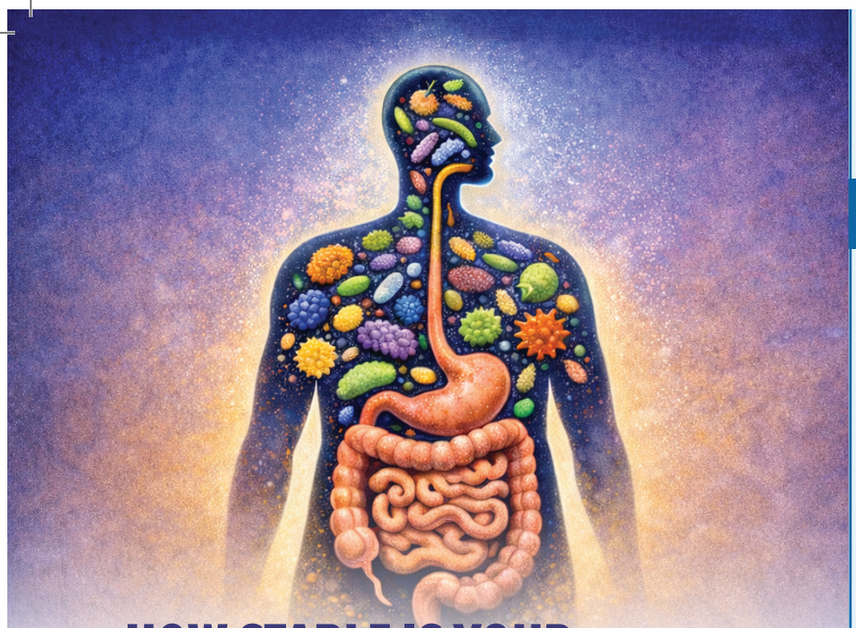
The Multiethnic Cohort is more than a study; it is a decades-long conversation between researchers and the community. Your generous participation has been essential to helping us rewrite the guidelines for modern medicine, ensuring that no group is left behind. Together, we are working to ensure a healthier, more vibrant future for our cohort, our families, and generations to follow.

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 (O'ahu) • 1-877-415-8323 (Toll free in Hawai'i) or visit our website at *www.uhcancercenter.org/mec*



HOW STABLE IS YOUR GUT MICROBIOME?

We talk a lot about gut health these days. Probiotics, fiber, fermented foods. There's a whole wellness industry dedicated to the ecosystem inside us. This gut ecosystem, containing over 1,000 different kinds of microbes, provides us with extra nutrition and helps to maintain our health. However, scientists are still figuring out how stable our gut microbes really are. Do they change wildly day to day? Or do they stay mostly the same over time?

That's the question our collaborators at Fred Hutch Cancer Center set out to answer. We wanted to understand whether a single stool sample would be enough to study the role of gut microbes in cancer. Twenty-five older adults participating in the Multiethnic Cohort were followed for two years. Every six months, participants collected and mailed stool samples for processing to measure gut microbes. The Fred Hutch team used a technique called "metagenomic sequencing" that reads the entire genetic material in a sample to see not just which microbes are there, but what they are capable of doing.

KEY TAKEAWAYS:

- **Remarkable Stability:** For most participants, the bacterial "neighborhood" in the gut remained very stable over the entire two-year period.
- **Functional Backup:** The study found that even if specific microbes decreased, others stepped in to perform the same vital functions—like breaking down nutrients and supporting the immune system.
- **Research Impact:** This stability is a breakthrough for scientists. It proves that a single snapshot of your gut microbes can accurately reflect your health over an extended time. This makes studies on how gut health influences cancer and other chronic diseases much easier.

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INCIDENT INVOLVING THE MEC DATA

The unauthorized third party encrypted large amounts of data, which required time and expertise to restore and review. No medical records were involved and there is no evidence to date that the information has been published, shared or misused.

MEC participants were individually informed of the incident by notification letters mailed on February 23, 2026. This letter includes offers of free credit monitoring and identity theft insurance, and a toll-free number to call for any related inquiries. The number and additional information on the cyberattack can be found on the UH Cancer Center Cyberattack Information and Resource Page at https://hawaii.edu/cancercenter/incident/.

We have taken numerous measures and spent significant amounts of time and resources over the last months to ensure this does not happen again. In addition to launching a forensic investigation into this incident and notifying individuals whose personal information was exposed, additional technical and organizational safeguards have been implemented to enhance the security of our systems. UH's Information Security team and third-party cyber professionals continue to monitor our systems 24/7 for any unusual activity.

The UH MEC investigators truly value your generosity in providing information to help researchers learn how to prevent cancer. We deeply regret that this incident occurred and that so many individuals have been impacted. Please be assured that we have taken this matter extremely seriously and we are committed to transparency, accountability, and strengthening protections for the research data entrusted to us.

THE BOTTOM LINE: While your meals may change from day to day, your microbial "workforce" stays on the job to keep you healthy. This resilience is a testament to the body's incredible ability to maintain balance.

Read the full summary and access the scientific article at **https://www.fredhutch.org/en/news/spotlight/2025/07/phs-CEBP-moosavi.html** or scan the QR code to the right.

GUT MICROBIOME & NUTRITION

The gut microbiome refers to the large and diverse community of microorganisms or bacteria in the digestive tract. These bacteria are good and aid in breaking down the food that we eat and provide strong support to our immune system. Because 70-80% of our immune cells are present in the gut wall, there is a powerful relationship between the intestinal microbiome and the immune system. We now know that diet, through its effect on the gut microbiome, can strengthen our immune system. This is especially important for the elderly and cancer patients who have weakened immunity.

Although many components of nutrition can affect the microbiome, there are only three main actors:

- **Dietary fiber** is a type of carbohydrate found in plant-based foods that the body cannot digest or absorb but stimulates the good bacteria in our gut.
- **Prebiotics** are non-digestible food ingredients that act in the same way as fiber.
- **Probiotics** are live bacteria that, when ingested, can modify the intestinal microbiota by supporting the growth of more good bacteria.

How they work together: The fiber and prebiotics are fermented by the good bacteria in your gut to produce beneficial byproducts which can boost the immune system. The probiotics are newly introduced live bacteria to grow more of the good bacteria to continue this cycle.

SIMPLE WAYS TO BOOST YOUR GUT HEALTH

FERMENTED FOODS (PROBIOTICS)

TIP:
Look for labels that say “live and active cultures.”

FUNCTION:
Introduces beneficial bacteria to help balance your gut microbiome.

EXAMPLES:
Kimchi, Sauerkraut, Kefir, Yogurt, Kombucha, Sour Poi, etc.

COMPLEX CARBOHYDRATES (FIBER & PREBIOTICS)

TIP:
Choose a variety of whole, plant-based food.

FUNCTION:
These feed the good bacteria and keep your system moving.

EXAMPLES:
Fruits: Apples, bananas, berries, papaya, peaches, etc.

Vegetables: Garlic, onion, leafy greens, broccoli, carrots, etc.

Whole Grains: Brown rice, whole grain bread, crackers, tortillas, quinoa

Legumes: Beans, lentils, peas

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Late-Onset Rheumatoid Arthritis and Air Pollution in the MEC

Rheumatoid arthritis (RA) is a chronic inflammatory disease of the joints of unknown cause that affects over 17 million people worldwide. Roughly one-third of people diagnosed are 60 years of age or older. It has been suggested that outdoor air pollution may increase risk of RA.

We wanted to determine if this is true in our populations using historical data from air monitoring stations in California. We studied 42,152 California Multiethnic Cohort (MEC) participants who were 65 years of age or older and were enrolled in Medicare. In this group, 2,027 newly diagnosed cases of RA were found through Medicare records. We were able to look at exposure to air pollution over an 18-year period. We found that occurrence of RA was related to higher exposure to fine particulate matter and gaseous pollutants, including traffic-related air pollution. This statistical relationship held regardless of occupational exposures, body mass index, and smoking, and was present in men and women. However, the connection between RA and air pollution was stronger among African American and Latino participants, compared to Japanese American and White participants.

These findings are important as they suggest that traffic-related air pollution influences RA development after age 65. This was particularly true among African American and Latino adults, two groups at higher risk for RA.