The Fight Against Hawai‘i’s Deadliest Cancer

2017 Quest for a Cure Event

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It’s been a great year at the University of Hawai’i Cancer Center. Our researchers have been laser-focused on our mission: to reduce the burden of cancer through research, education, patient care and community outreach with an emphasis on the unique ethnic, cultural, and environmental characteristics of Hawai’i and the Pacific. This has been accomplished through seminal advances in basic cancer biology, population sciences and epidemiology, and cancer prevention research. UH Cancer Center faculty had more than 242 published manuscripts this past year, some in the most prestigious journals in the world.

One of the benchmarks of successful research is attaining peer-reviewed grants from the National Institutes of Health and the National Cancer Institute. 2016 was a banner year for Cancer Center members, bringing over $40 million in grant funding to the University. It looks like 2017 will be about the same or better. This speaks to the high quality of research being done right here in Hawai’i.

The Cancer Center faculty continues to be involved in education of undergraduate and graduate students and extensive community outreach to bring information about cancer and cancer advances to the people of Hawai’i. We also provide an infrastructure to facilitate access to clinical trials for nearly two-thirds of the cancer patients in the State. In conjunction with our clinical partners at The Queen’s Medical Center, Hawai’i Pacific Health, and Kuakini Health System, the UH Cancer Center offers more than 100 clinical trials. Counting trials designed for cancer treatment, cancer diagnosis, and cancer prevention and control, over 2,000 patients enrolled onto a UH Cancer Center clinical trial this past year!!!

Also, thanks to the support of UH Mānoa and Governor David Ige, the Cancer Center is projected to have a balanced operating budget in fiscal year 2018. This allows us to focus on what is truly important—making advances in cancer treatment and prevention and bringing these advances to the people of Hawai’i.

We expect great things ahead for the coming year. We have submitted an application to retain our designation as one of only 69 NCI-designated cancer centers in the U.S., we’d like to expand our clinical trials capabilities to bring even more novel research opportunities to our patients, and we want to add new faculty to support our superb research in cancer biology, ethnic diversity and cancer health disparities, and cancer prevention.

Mahalo for a fantastic past year and looking forward to an even better year coming up.

Randall F. Holcombe, MD, MBA
Director

Clifford Martin, MBA, joined the UH Cancer Center as the associate director of administration in July 2017. Martin oversees the management of the Center including budget oversight, grants management, human resources, public relations, facilities, information technology, and research infrastructure in clinical trials and shared resources. He serves as the lead administrator for the very competitive P30 Cancer Center Support Grant which comes with the NCI-designation. For the past 11 years, Martin was the lead administrator at West Virginia University Cancer Institute and spent eight years prior in research administration at the University of Virginia Cancer Center. He has extensive experience in pre- and post-award grants administration and establishing administrative processes to effect collaboration among scientific projects and programs.

Jessica Rhee, MD, MS, associate researcher and Clinical Trials Office (CTO) medical director oversees the activities that support Translational and Clinical Research. Her clinical practice has focused on breast cancer, especially women at high risk. She strives to improve the health and well-being of breast cancer survivors. Dr. Rhee will also be in clinical practice at The Queen’s Medical Center.
The UH Cancer Center hosted its 2nd Annual Helping Enhance Research in Oncology (H.E.R.O.) Appreciation Event to honor clinical trial participants on June 3, 2017 at Dole Cannery.

Keynote speaker and UH Cancer Center clinical trial participant, Dawn Kobayashi, spoke about participating in a Center trial and being a clinical trial advocate. Kenneth Sumida, MD, Hawai‘i Oncology, Inc. medical oncologist, and UH Cancer Center associate clinical professor, highlighted how the Center supports Hawai‘i oncologists.

Center director, Dr. Randall Holcombe, thanked participants for helping to accelerate improved cancer care and cures through participation in a clinical trial with the UH Cancer Center. The data collected from these trials allows researchers to answer important health questions related to cancer, and helps them discover new medical devices, treatments and preventative interventions.

Since founded in 1971, thousands of Hawai‘i residents have been able to participate in UH Cancer Center-coordinated clinical trials. The residents participating in the trials include underserved and minority populations who have access to the most innovative and latest treatments without having to travel and leave home.

The UH Cancer Center coordinates about 150 active national clinical trials of new treatments and technologies for adults and children. The Center is currently monitoring about 1,000 participants and enrolling more than 300 new clinical trial participants annually.
Akira Tanaka Family Establishes Liver Cancer Research Fund

Akira Tanaka grew up in Hawai‘i and met his wife Judith while attending the University of Hawai‘i. The couple married in 1948 and relocated so Tanaka could complete college at Michigan State University. They spent a total of 58 years in Michigan and California which included a career in the automotive industry where Tanaka obtained 27 patents, owned a successful private business, and raised two daughters, Diane and Sandy. The Tanakas returned to their home of Hawai‘i in 2006.

Tanaka, or Aki to his friends and family, started the Tanaka Family Endowment for Liver Cancer Research after losing his wife Judith and daughter Diane Tanaka Ma to cancer in 2014 and 2012 respectively.

Tanaka used both a Charitable Gift Annuity and Charitable Remainder Trust to fund liver cancer research in perpetuity. Reflecting on why it was so important to establish this fund, Tanaka said, “Both my wife and daughter went through cancer, I hope this fund will help other families.”

The UH Foundation and the Center are grateful for Aki’s support and appreciate his foresight to honor his wife and daughter in a meaningful manner.

If you are interested in learning more about the various ways to make a charitable gift to the Cancer Center, please contact Todd Cullison at 808-356-5757 or todd.cullison@uhfoundation.org.

21st Annual Run for Hope Weekend

A weekend of cancer research fundraising ended with a run at Kailua-Kona, Hawai‘i.

Hundreds of people participated in the 10K and 5K run. The Four Seasons Resort Hualalai’s annual weekend to benefit cancer research goes toward supporting the UH Cancer Center’s research efforts as well as the American Cancer Society.

“I’m running in this race for my friends. I have some friends that are going through their cancer journey right now, so it’s for them,” shared Gayle Buckwalter, 5K run participant.

“The Hawai‘i Island weekend long event is a great way for people to participate in making a difference by raising awareness and funds for cancer research,” said Dr. Randall Holcombe, UH Cancer Center director.

September 8th – West Hawai‘i Cancer Symposium
September 9th – 21st Annual Taste of Hawai‘i Island Culinary event with Hawai‘i Island chefs and a silent auction.
September 10th – Golf and Tennis Tournaments
September 11th – Run for Hope 10K or 5K run

Cooling Cancer Raises $60,000

For the fourth consecutive year, Cooling Cancer raised funds for cancer research at its golf tournament held at Hoakalei Country Club. Drew Santos, founder and president of Cooling Cancer, along with all its board members continue their dedication to cancer research in Hawai‘i.

The 2017 gift to the UH Cancer Center was a 20 percent increase to $60,000 from $50,000 the past two years. Overall, Cooling Cancer has donated $210,000 to help the Center accelerate cures through cancer research in Hawai‘i. (Mahalo to Cooling Cancer for its continued dedication to cancer research in Hawai‘i.)
The 7th Annual Quest for a Cure: Progress in Cancer Research event highlighted the latest statistics and treatments for lung cancer. This community outreach educational event, held on September 30, featured researchers from the UH Cancer Center and expert clinicians from Straub Medical Center, The Queen’s Medical Center, and the Cancer Center of Hawai’i.

"Initially I was told I had 6 to 12 months, but it has been 6 plus years, and part of what’s been helpful has been that I also do research... I educate myself before I make a very important decision. You go to seminars like this and you learn more, and knowing more is very powerful," said Grace Lee, lung cancer survivor.

- Statewide lung and bronchus cancers are the second most commonly diagnosed cancers in both sexes, after prostate cancer in men and breast cancer in women.
- Lung cancer is the leading cause of cancer deaths in Hawai’i and the U.S. among both males and females. Worldwide, it is also the #1 cause of cancer deaths in men and women.
- There are an average of 776 new cases of lung and bronchus cancers and an average of 526 deaths in Hawai’i each year.
- Native Hawaiian men and women have the highest incidence and death rates from lung cancer.
- Filipinos have the highest proportion of late stage lung cancers where cancer may have spread beyond the lungs—(81.3 percent), followed by Native Hawaiians (79.3 percent).

One positive note is Hawai’i has among the lowest lung and bronchus cancer incidence and mortality rates in the U.S. according to the UH Cancer Center’s Hawai’i Tumor Registry. Over the past 30 years, mortality rates in the state have steadily declined in men while remaining stable in women.

“We still have a lot of disparities within our ethnic population and that is directly attributed to differences in smoking rates across the different populations,” said Brenda Hernandez, PhD, MPH, associate researcher and Hawai’i Tumor Registry director. “It is estimated that 90 percent of all lung and bronchus cancers are attributed to smoking.”

According to Thomas Wills, PhD, researcher at the UH Cancer Center, e-cigarette use is being closely scrutinized due to its rapidly growing popularity among teens and young adults. He states, “Research from Hawai’i is making a national impact on health care policies.”

Daniel Fischberg, MD, PhD, director of the Pain and Palliative Care Department at The Queen’s Medical Center, presented palliative care as an important aspect of cancer care when one is diagnosed. Palliative care is specialized medical treatment used to prevent and reduce pain, symptoms, and stress for people living with serious illness such as lung cancer.

Ronald Yanagihara, MD, medical oncologist at the Straub Medical Center, started his professional career in the 1970s, when Cisplatin and Carboplatin became the two drugs that were effective and remained the mainstays in lung cancer treatments for many years. Since then other newer and effective drugs and treatments have been developed such as targeted therapy and immunotherapy.

Richard Lee, MD, of the Cancer Center of Hawai’i radiation oncology team, described how radiation therapy is still evolving. Newer techniques, technology, and equipment are targeting treatments more specifically at tumor sites to spare normal surrounding tissue, thus, reducing related side effects.

“It is very important that we understand what causes lung cancer, how we can prevent it, how we can treat it, and the Quest for a Cure event is an opportunity for people in the community to learn more about what to do about lung cancer,” said Dr. Randall Holcombe, UH Cancer Center director.
Nineteen high school and undergraduate students conducted cancer research at the UH Cancer Center during the 2017 summer.

“The internship program characterizes the community engagement that is very important to the UH Cancer Center. We are able to reach out to young students across the island and help them get exposed to new research advances and cutting edge biomedical research. These students will become a part of Hawai’i’s science and technology workforce,” said Dr. Randall Holcombe, UH Cancer Center director.

The interns were selected through a highly competitive process. Out of 74 total applicants 19 students were selected with an average GPA of 3.77.

The internship program provides valuable research experience and exposes young people to possible careers in the life sciences. Past program interns have gone on to earn advanced degrees from top universities before returning to work in Hawai’i as physicians or scientists.

A 2017 follow-up of 72 previous interns showed:

- 73 percent obtained an undergraduate degree in a science field,
- 5 percent completed a medical degree,
- 5 percent finished graduate school in a research-oriented field,
- 34 percent are enrolled in an undergraduate science program,
- 13 percent are enrolled in a master’s program, and
- 23 percent are enrolled in a medical school.

The Center’s internship program is supported by the National Cancer Institute Cancer Center Support Grant (CCSG) Continuing Umbrella of Research Experiences (CURE) Supplement, an endowment from the Meiji Yasuda Life Insurance Company, and the Friends of the UH Cancer Center.

BREAKTHROUGH DISCOVERY: WHY SOME PEOPLE ARE MORE SUSCEPTIBLE TO ENVIRONMENTAL CARCINOGENS

The UH Cancer Center’s director of Thoracic Oncology, Michele Carbone, MD, PhD, and his team discovered why people carrying mutations of a gene called BAP1 are much more susceptible to asbestos, sunlight, and other environmental carcinogens.

They also found that cancer cells with a BAP1 gene mutation are resistant to chemotherapy. About 20 percent of all cancers have BAP1 mutations.

The findings published in *Nature* highlight how the BAP1 gene regulates a channel (IP3R3) inside cells that moves calcium. When the BAP1 gene is mutated or damaged, calcium levels inside the cells decrease. The decrease of calcium makes cells more likely to become malignant when exposed to environmental carcinogens.

BAP1 mutations make up tumor cells of:

- 70 percent of mesotheliomas
- 90 percent of eye melanomas
- 90 percent of renal cell carcinomas

Two ways you can get a BAP1 mutation:

- Some people are born with the mutation
- BAP1 gets damaged in the process that the cell becomes cancerous

“We found that cancer cells become much more responsive to chemotherapy when BAP1 levels are restored and calcium channels are fixed and stabilized. The fixed channel should be able to prevent cancer in people who have inherited BAP1 mutations and help treat cancers whose tumor cells have developed BAP1 mutations,” said Dr. Carbone.
MULTIETHNIC COHORT STUDY AWARDED $3.1 MILLION

The National Cancer Institute awarded $3.1 million to the UH Cancer Center’s Multiethnic Cohort (MEC) Study. It is one of the largest studies of its kind, and one of the most ethnically diverse. The MEC Study was established to examine lifestyle risk factors, especially diet and nutrition, as well as genetic susceptibility in relation to the causation of cancer. Loic Le Marchand, MD, PhD, a senior researcher at the Cancer Center, is the lead investigator of the study.

U.S. Senator Brian Schatz’s office announced the award in a news release. “If we’re going to end cancer once and for all, we need to understand why different races and ethnicities seem to have varying susceptibility to cancer,” said Schatz. “It’s fitting that this announcement of funding comes around the 55th anniversary of President Kennedy’s speech committing to sending Americans to the moon. Ending cancer is our moonshot, and this funding takes us one step further in our pursuit.”

The MEC Study is a prospective epidemiological study in which 215,000 Hawai’i and Los Angeles residents, aged 45-75 at recruitment in 1993-1996, completed a questionnaire about their dietary habits. The participants are being followed for occurrence of cancer, other chronic diseases, and death. The MEC Study is being conducted to find the best approach to achieving a health-promoting diet in Hawai’i and across the nation.

The cohort is comprised of men and women primarily of Native Hawaiian, Japanese, African American, Latino and Caucasian origin. The study is conducted at the UH Cancer Center and the Keck School of Medicine, University of Southern California.

A CUP OF COFFEE MAY HELP YOU LIVE LONGER

Drinking coffee was associated with a reduced risk of death in the 24-years long Multiethnic Cohort (MEC) Study conducted at the University of Hawai’i Cancer Center. Coffee drinkers had a reduced risk of death from heart disease, cancer, diabetes, stroke, kidney and respiratory disease.

- One cup a day was associated with a 12 percent decrease in risk of death overall, and
- Two to three cups with an 18 percent decrease.

“As in other states, coffee is one of the most popular beverages in Hawai’i, the only state in the U.S. where coffee is grown commercially. Although this study does not show causation or point to what chemicals in coffee may have a protective effect, it is clear that coffee can be incorporated into a healthy diet and lifestyle,” said Song-Yi Park, PhD, first author of the study and assistant specialist in the UH Cancer Center’s Population Sciences in the Pacific Program.

The study, published in Annals of Internal Medicine, found no further decrease in risk of death with higher coffee consumption. Also, the health benefit was seen regardless of whether coffee was caffeinated or decaffeinated, suggesting that the beneficial effect comes from the coffee itself, not caffeine.

UH CANCER CENTER RESEARCHER RECEIVES FULBRIGHT AWARD TO STUDY BREAST CANCER

Gertraud Maskarinec, MD, PhD, researcher in the UH Cancer Center’s Population Sciences in the Pacific Program (Cancer Epidemiology) received a $20,000 Fulbright Award, to enable her to research the relation of obesity, type 2 diabetes, and breast cancer in Caucasian and Asian women.

The research will address the global health problems of obesity, diabetes, and breast cancer. As a nutritional epidemiologist, Dr. Maskarinec will perform comparative research using new statistical methods for six weeks at the University of Iceland in Reykjavik, Iceland, one month at the University of Edinburgh in Edinburgh, U.K., and six weeks at the Radiation Effects Research Foundation in Hiroshima, Japan. In addition, she will give lectures and seminars in the area of her research, in particular, nutritional epidemiology and ethnic differences in disease risk.
The UH Cancer Center hosted its Fourth Annual Prostate Cancer Forum. The event was in recognition of National Prostate Cancer Awareness Month. The forum featured local physicians who spoke about the latest prostate cancer treatments, breakthroughs, and management strategies.

Prostate cancer is the most common cancer in men in Hawai‘i and accounts for 22 percent of cancer cases. Annually, an average of 743 men are diagnosed with invasive prostate cancer in Hawai‘i, and an average of 99 men die of prostate cancer in the state. Prostate cancer incidence and mortality rates in Hawai‘i steadily declined over the past 20 years according to the UH Cancer Center’s Hawai‘i Tumor Registry.