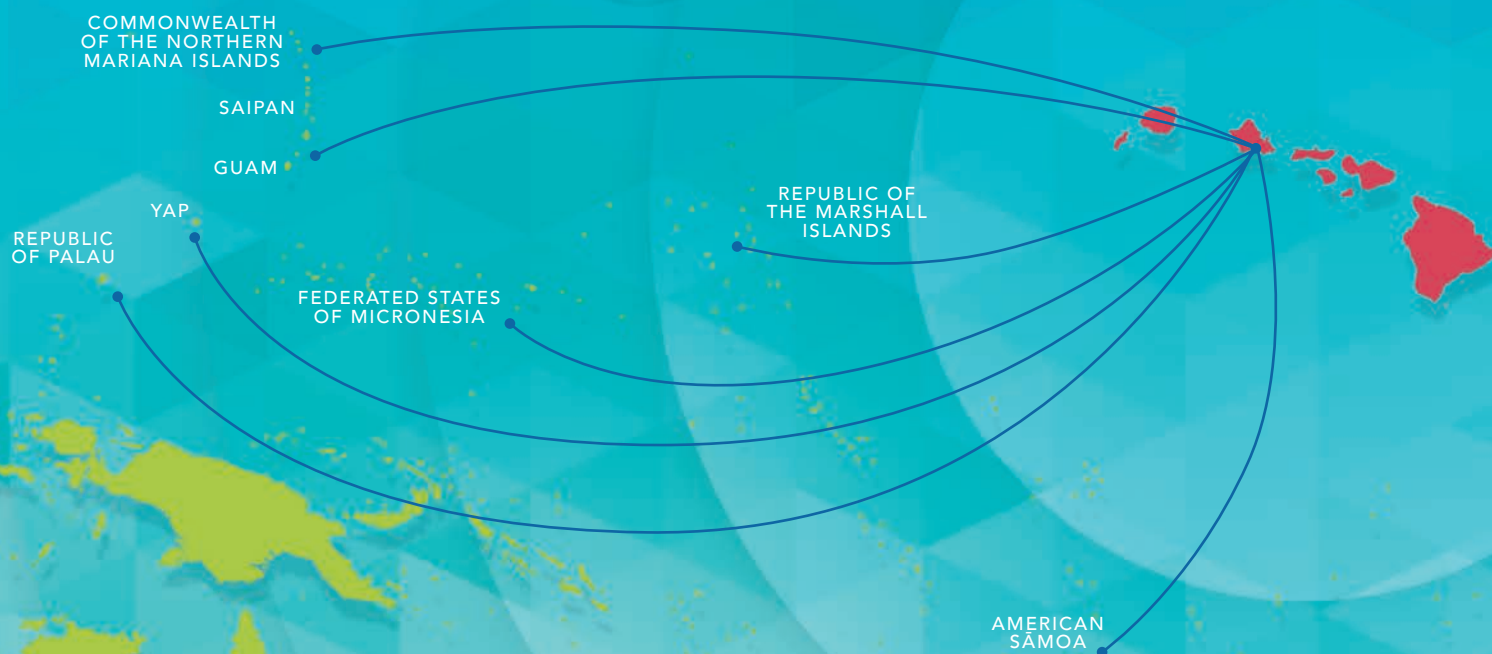


Fighting Cancer in the *Pacific*

STORY ON PAGE 4



The biggest global health crisis in low and lower-middle income countries is no longer infectious diseases but the dramatic increases in non-communicable diseases (NCDs) such as cancer. In contrast to upper-middle and high income countries, the number of annual deaths due to cancer is steadily rising in the poorest countries in the world, placing a burden that impacts not only health but also economic development. In these countries, NCDs account for 1.6 times as many premature deaths as malaria, tuberculosis and HIV/AIDS combined.

The burden of cancer is great across a vast region in the Pacific (the US-Affiliated Pacific Island Jurisdictions or USAPIJ) that consists of three Flag Territories (Guam, American Samoa, Commonwealth of the Northern Mariana Islands) and three Freely Associated States (Federated States of Micronesia, Republic of the Marshall Islands, Republic of Palau). The expanse of the USAPIJ is twice the size of the continental U.S., crosses five time zones and the international date line, has a population of approximately 600,000 people and has 3,000 new cancer cases annually.

Because of the lack of modern cancer treatment, the greatest impact to reduce the burden of cancer across the Pacific is through cancer prevention and control. This involves a mix of activities to improve infrastructure, provide education about screening and lifestyle factors that contribute to cancer incidence, and direct behavioral and preventative interventions. The University of Hawai'i Cancer Center has provided a leadership role in these efforts through collaborations with the Cancer Council of the Pacific Islands and through a number of Centers for Disease Control and Prevention and National Institutes of Health-supported research programs. The UH Cancer Center has built on existing relationships in Guam and American Samoa, established the Trans-Pacific Partnership for Cancer Prevention, conducted clinical research focused on reducing the use of carcinogenic betel nut, and worked to improve cervical cancer screening in the region. These initiatives have a broad mission dedicated to the development of and the promotion of culturally-appropriate, evidence-based cancer prevention and control activities. Through community partnerships, the UH Cancer Center, among all of the 70 NCI-designated cancer centers, is the leader in working to reduce the burden of cancer across the Pacific.

Aloha,

Randall F. Holcombe, MD, MBA

Randall F. Holcombe, MD, MBA
Director



UH Hilo SHARP students visit UH Cancer Center

In January, members of the University of Hawai'i Hilo Students of Hawai'i Advanced Research Program (SHARP) visited the UH Cancer Center.

The visit included lab tours and presentations about cancer statistics and Hawai'i specific cancer research. UH Cancer Center graduate students and postdoctoral trainees also shared their academic and career journeys in cancer research with the prospective young researchers from UH Hilo.

SHARP is federally funded by the National Institutes of Health (NIH) Research Initiative for Scientific Enhancement (RISE). Its goal is to increase the number of underrepresented undergraduate and graduate students, particularly Native Hawaiians, Pacific Islanders, Hispanics (includes Filipinos), African Americans, Native Americans and Alaskans, and students with disabilities in biomedical and biobehavioral sciences research and ultimately obtain their bachelors and doctoral degrees at UH Hilo.

Quest for a Cure highlighted emerging research on cancer and the human microbiome

In November 2018, the 8th Annual Quest for a Cure was held at the UH Cancer Center. The free community education event focused on the human microbiome (bacteria) and its relationship to health and diseases such as cancer. Topics included efforts to prevent infections in the digestive tract, health conditions influenced by the oral microbiome, how the gut microbiome influences metabolism, and how gut bacteria is critically involved in the development of chronic liver disease.

Presenters included Margaret McFall-Ngai, PhD, director of the Pacific Biosciences Research Center at UH Mānoa, and UH Cancer Center researchers Scott Kuwada, MD, Brenda Hernandez, PhD, MPH, Carol Boushey, PhD, Loïc Le Marchand, PhD, and Wei Jia, PhD.





Webster Cavanee, PhD

Dozens of world-renowned scientists spoke at UH Cancer Center Weinman Symposium

World-renowned scientists spoke at the 10th Annual Weinman Symposium. The scientists covered some of the latest cancer research findings, specifically cancer syndromes. Cancer syndromes are genetic disorders in which inherited genetic mutations in one or more genes predispose individuals to the development of cancers. Top scientists from across the nation presented their research findings, and looked at opportunities for research collaborations. High school students from Maryknoll School and other students from across the state also had a chance to have a question and answer session with the researchers.

Webster Cavanee, PhD, received the 10th Weinman Award for outstanding cancer research contribution. Cavanee discovered the existence of tumor suppressor genes in many human cancers. He and his team have also pioneered understanding the genetic basis for glioblastoma, developed therapies that target these lesions and uncovered several mechanisms of resistance to developing cancers.

The Weinman Symposium is supported by the generosity of the Weinman Foundation.



Students interact with Weinman Symposium speakers.

Cancer Care Coordination Research

Contributed by Izumi Okado, PhD

Cancer is a very complex disease, and coordination of care is especially important for cancer patients because many healthcare providers, settings, and interventions are involved in their care. In our research, Randall Holcombe, MD, MBA, UH Cancer Center director and principal investigator of the study and I are interested in learning patients' perceptions of care coordination in order to understand and improve cancer care.

Since February 2018, we have conducted two research studies on care coordination. The first study began with 68 cancer patients who provided feedback on a care coordination survey in focus group sessions. Next, in The Care Coordination Instrument pilot study, 200 cancer patients completed the revised survey.

Our research studies have received enthusiastic feedback from cancer patients and their caregivers. Support from our community partners has been invaluable in our research projects (Hawai'i Cancer Care, The Cancer Center of Hawai'i,

The Queen's Medical Center, Hawai'i Pacific Health-Straub, Hawai'i Oncology and Hope Lodge/American Cancer Society).

We are currently planning our next study with patients and caregivers to further understand care coordination. If you are a cancer patient with a family/friend caregiver or are interested in more information about our care coordination research, contact us at: (808) 564-5978 or iokado@cc.hawaii.edu.

Izumi Okado (right), co-investigator for The Care Coordination studies, and Louise Cavanaugh, study volunteer (left).





Cutting betel nut use in Guam and Saipan

UH Cancer Center researchers are conducting a randomized trial of betel nut cessation in Guam and Saipan. It is the first such trial in the world.

Thaddeus Herzog, PhD, UH Cancer Center associate professor and project lead, along with Yvette Paulino, PhD, and Adrian Franke, PhD, are researching betel nut cessation methods. "The Betel Nut Intervention Trial (BENIT)," builds upon previous U54 research revealing that betel nut chewers are similar to cigarette smokers for important variables such as dependence (i.e., addiction), motivation to quit, and number of previous quit attempts. The study also found that chewing betel nut is influenced by social and cultural norms.

With an estimated 600 million users globally, betel nut ranks as the fourth most frequently consumed psychoactive substance in the world, following only nicotine, alcohol, and caffeine. Betel nut has been designated by the International Agency for Research on Cancer as a 'Group 1' carcinogen. Currently, very little is known about how to reduce the cancer risk associated with betel nut chewing.

The nut is indigenous predominantly to South and South East Asia, East Africa and the Western Pacific. As people migrate to other geographical regions, they have taken their practices with them, leading to a rise in betel nut chewing across the globe.

Betel nut chewers, like smokers, generally want and intend to quit, but do not have specific plans of how or when they will quit. According to study researchers, the most current findings suggested that betel nut chewers could benefit from cessation programs modeled after smoking cessation programs.

Fighting Cancer in the *Pacific*

A 16-year partnership between the UH Cancer Center and the University of Guam is focused on meeting the cancer-related challenges faced by residents of the U.S.-Affiliated Pacific Island Jurisdictions (USAPIJ).

Reflecting back 25 years, Neal Palafox, MD, U54 grant co-principal investigator, explained, "The collective action of many Pacific partners towards cancer prevention and control placed the UH Cancer Center in a pivotal role to enhance and implement the needed research to mitigate the disparate burden of cancer in indigenous Pacific peoples."

The USAPIJ population is a highly underserved minority that bears a significant burden of serious health conditions including cancer. Provision of basic health services, such as education, basic vaccinations, and screening in the Pacific presents significant challenges due to the diversity of the peoples and languages and the isolation of their homes on small islands and atolls separated by large expanses of ocean.



Principal Investigators, researchers and staff of the University of Guam Cancer Center and the UH Cancer Center at their annual Program Steering Committee Meeting on Guam in February.

Cancer Statistics for Pacific Islands

Cervical Cancer	Chuukese and Marshallese women have among the highest rates of cervical cancer in the world.
Oral Cancer	Areca (betel) nut is chewed by approximately 600 million people of all ages and social classes worldwide, including in Guam. The oral cancer incidence rate is two-three times higher on Guam compared to the U.S average.

“Through the partnership between the UH Cancer Center and the University of Guam, important research has emerged addressing key cancer disparities affecting each of our populations as well as those unique to the Pacific. Importantly, the partnership has also helped to strengthen cancer surveillance in the Pacific which can inform these research needs,” said Brenda Hernandez, PhD, MPH, UH Cancer Center epidemiologist and U54 study co-investigator.

The USAPIJ includes: territories of American Sāmoa, Guam, and the Commonwealth of the Northern Mariana Islands; three Freely Associated States: the Republic of Palau, the Federated States of Micronesia, and the Republic of the Marshall Islands.

Notable milestones of U56 Comprehensive Planning Grant (2003-2009):

- Establishment of the University of Guam (UOG) Cancer Research Center
- Stabilization of the Guam Cancer Registry (GCR) with hire of additional full-time data collection specialists.
- Natasha Protection Act of 2005 supported strict legislation for tobacco control

Notable U54 Grant Milestones:

Tobacco Control (2009-2015)

- Guam Cancer Trust Fund established by law to provide direct services for Guam cancer patients.
- 1 percent Tobacco Tax sustains the Guam Cancer Registry
- Landmark legislation in Guam resulted in decreased tobacco use and increased tobacco taxes

Research (2015-2020)

- Study of Health Risks for Betel Nut Chewers
- Health Information Trends and Needs in the Pacific
- Cervical Cancer Prevention Project

Training

- 34 Pacific Island students trained in cancer research – two graduates are now University of Guam faculty
- Five online training modules developed for graduate students at partnering institutions

Establishing INSPIRE in American Sāmoa

The Indigenous Sāmoan Partnership to Initiate Research Excellence (INSPIRE) seeks to establish a culturally-grounded and durable foundation for conducting public health research to contribute to scientific advancements while reducing the colorectal cancer-related health disparities in American Sāmoa. INSPIRE is a five-year project funded by the National Institute on Minority Health and Health Disparities.

Since its initiation in 2016, INSPIRE community-based investigators in American Sāmoa and academic partners at the UH Cancer Center and Vanguard University California achieved several major project milestones including:

- Established a community-based research facility in American Sāmoa with computers, internet access, and software for data collection and analyses. The new resources are essential to research capacity strengthening.
- Provided technical assistance to the existing Institutional Review Board in American Sāmoa to build capacity to conduct clinical and public health research.
- Recruited and trained a cadre of four masters- and doctorate-educated American Sāmoa-based investigators interested in advancing their research knowledge relevant to cancer disparities.
- Collected data for a population-based study of 750 American Sāmoan adults, testing the use of the Short Form Test of Functional Health Literacy Adults (STOFHLA). This is the first adaptation of the STOFHLA for use with a Pacific Islander population.



Kevin Cassel, DrPH, one of the INSPIRE project co-investigators from the UH Cancer Center.

As the INSPIRE project enters its fourth year, investigators are working to analyze the population-based STOFHLA data, and crafting proposals for studies that examine the use of the American Sāmoa-tested STOFHLA.

Philanthropy from across the Pacific

Giving to charity is something Oscar and Antonia Sanchez knew they wanted to do for many years. The Sanchezs decided to support the UH Cancer Center's Multiethnic Cohort (MEC) Study through a bequest from their estate. Antonia Sanchez has been a MEC participant since the study's inception more than 25 years ago. As a couple of Hispanic ethnicity, they felt it was important to support research.

"It feels good to support this work, because the research includes the Hispanic community. Often medical statistics only cover the white community," said Oscar Sanchez.

The MEC Study is a large epidemiological study which follows over 215,000 residents of Hawai'i and Los Angeles for development of cancer and other chronic diseases. It includes men and women of five main ethnic groups: Japanese Americans, Native Hawaiians, African Americans, Latinos and whites.

"I want to help the Hispanic community, who are often too shy to say anything about cancer. Once we had the means to donate, we never hesitated to support the Multiethnic Cohort Study," said Antonia Sanchez.

Supporting cancer research is also very personal for the Sanchezs. Antonia Sanchez had three sisters who fought breast cancer, and Oscar Sanchez is a 20-year survivor of pancreatic cancer. The Sanchezs agree that receiving newsletters, reports and recommendations from the MEC Study allows them to understand the importance of their involvement.

If you are interested in learning more about supporting our work through cash, a deferred gift or with highly appreciated assets such as stocks or real estate, please contact Todd Cullison, associate director of development at 808-356-5757 or todd.cullison@uhfoundation.org.



Cancer Clinical Trials to Be Available in Guam

The National Cancer Institute (NCI) approved the addition of FHP Health Center, Guam, to its NCI Community Oncology Research Program (NCORP) in January 2019. Family Health Plan (FHP) Guam's affiliation with the University of Hawai'i Cancer Center's Minority/Underserved NCORP will allow patients on Guam to participate in NCI-sponsored cancer clinical trials. ►



The Four Seasons Resort Hualalai on Hawai'i Island continues to support the UH Cancer Center with a \$19,822 donation. These funds were raised at the 22nd Annual Run for Hope weekend in September 2018 to benefit cancer research. Activities included the Taste of Hawai'i Island culinary event and silent auction, golf and tennis tournaments, and 5K-10K Run/Walk event.

University of Hawai'i Cancer Center Minority/Underserved NCORP team visits FHP Health Center, Guam in 2018 to determine its capability and interest in becoming an NCORP affiliate site. In the back, left-to-right: Munirih Taafaki, former UH Cancer Center regulatory supervisor, Samir Ambrale, MD, MPH, hematologist-oncologist, Jeff Larsen, FHP Health Center vice president, Dave Torre, FHP Health Center senior clinic manager. In the front, left-to-right: Isobel Webster, former UH Cancer Center clinical research associate, Charles Rosser, MD, MBA, former UH Cancer Center Translational and Clinical Research associate director, Jeffrey Berenberg, MD, UH Cancer Center NCORP principal investigator, Gerry Patricio, manager radiology services; Josette Baza, EHR specialist.

“Currently, Native Hawaiians, Pacific Islanders and Asians represent a small fraction of patients enrolled in NCI-sponsored cancer clinical trials nationwide. The inclusion of Guam to NCORP will increase accruals of underrepresented populations including ethnic minorities and rural residents,” said Jeffrey Berenberg, MD, UH Cancer Center’s Hawai’i Minority/Underserved NCORP principal investigator. “There is a great need to introduce cancer control, prevention and cancer care delivery research trials to Guam given the heterogeneous population, geographic location, unique cultural practices and diet.”

“I realized that although efforts had been made in the past to get NCI-sponsored cancer clinical trials to Guam, no one had succeeded,” said Samir Ambrale, MD, MPH, FHP Health Center, Guam, NCORP site principal investigator. “Most (95 percent) of the cancer care is delivered locally in Guam. Patients are advised about enrollment in cancer clinical trials available in Hawai’i or the continental U.S. for treatment of advanced cancer, but are routinely unable to travel for cancer care due to financial reasons and lack of social support. The new affiliation with the UH Cancer Center NCORP program will allow for cancer patients in Guam to have access locally to the latest treatments through cancer clinical trials.”

The majority (81 percent) of Guam’s population consists of Native Hawaiians, Pacific Islanders and Asians. During the period 2008-2012, 1,904 new cases of cancer were diagnosed in Guam and 736 residents lost their lives to cancer. Guam is a U.S. island territory in Micronesia, in the Western Pacific. It is located approximately 3,950 miles west of the Hawaiian Islands. The residents of Guam are U.S. citizens.

“We are delighted to be partnered with the UH Cancer Center and are committed to providing novel cancer therapies and treatments to our island residents,” said Jeffrey Larsen, FHP Health Center vice-president.

“Researchers at the UH Cancer Center, FHP Health Center and the University of Guam have been working diligently for months to complete requirements for joining the NCORP. The addition of FHP Health Center to NCORP’s list of sites has been possible due to collaborative efforts to elevate the level of cancer care, increase the availability of new treatments and help eliminate cancer related disparities in the region,” said Randall Holcombe, MD, MBA, UH Cancer Center director.

Finding new ways to screen for cervical cancer

A research team led by Brenda Hernandez, PhD, MPH, UH Cancer Center associate researcher, and Lee Buenconsejo-Lum, MD, John A. Burns School of Medicine professor, worked with public health leaders in Yap to develop a community-based research project to improve cervical cancer screening rates and reduce the burden of cancer on the island.

Micronesian women throughout the Pacific have among the highest rates of cervical cancer in the world. This is true of Yap, one of the states of the Federated States of Micronesia (FSM), where the cervical cancer rate is more than twice that of the U.S. This high burden of cervical cancer is consistent with low levels of screening at less than 40 percent throughout the FSM according to the Pacific Regional Central Cancer Registry.



Brenda Hernandez,
PhD, MPH

Human papillomavirus (HPV) infection is the principal cause of nearly all cervical cancers. Screening is essential to prevent the disease. However, in developing countries cervical cancer is a major public health challenge due to poor screening rates associated with geographic challenges and cultural barriers.

Hernandez and Buenconsejo-Lum conducted a research trial among 217 adult women in Yap, ages 21-65, at six community clinics. They compared cervical HPV DNA in self-collected urine with clinician-collected cervical cells via Pap test.

The study concluded that urine is less sensitive but more specific than a Pap test for the detection of cell abnormalities. They specifically found that urine-based DNA screening may be useful for older women in low-resource communities when clinically-collected samples cannot be obtained. However, they emphasized that more studies need to be conducted in larger populations including both low- and high-resourced settings.

FRIENDS OF THE UH CANCER CENTER

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A seminar to help shape cancer survivorship care on Kaua'i

Journey Together: Helping to Shape Cancer Survivorship Care in Hawai'i was held in February at the Hilton Garden Inn Wailua Bay on Kaua'i. The Hawai'i Comprehensive Cancer Coalition event convened survivors, caregivers,

and providers to discuss the challenges and opportunities to improve care for cancer survivors on the garden island. UH Cancer Center researcher, Erin Bantum, PhD, presented, "Improving Wellbeing for Cancer Survivors".

Erin Bantum, PhD, UH Cancer Center researcher, facilitates a discussion among cancer survivors, caregivers, and providers at the Journey Together event.

