Teenagers who use e-cigarettes are more likely to start smoking tobacco cigarettes, a new study by University of Hawai‘i Cancer Center researchers has found. Adolescents who have never smoked cigarettes, but are using e-cigarettes, are more likely to become cigarette smokers one year later.

“Teenage use of electronic cigarettes is an emerging public health issue. There is still a significant amount of debate around how e-cigs are relevant for someone’s health,” said Thomas Wills, Ph.D., interim director of the UH Cancer Center's Prevention and Control Program.

In the last four years there has been a dramatic increase in e-cigarette use by teenagers. Rates of high school students’ use of e-cigs have gone from one to two percent of students to rates now showing 20-30 percent, according to Wills.

“For several years people have asked if e-cigarettes make young people more inclined to smoke, whether there’s no effect, or if they do the opposite and help teens who are smoking to quit,” said Wills. “However, there has been little knowledge about what this means for health-related behaviors, and almost no scientific evidence for an answer to this question until recently.”

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Director’s Message

Dear Friends,

We are moving ahead into the Roman calendar and Chinese Lunar New Years. A lot has happened during the last 12 months within the UH Cancer Center and in the cancer community.

Nationally we have seen the President and Vice President advocate for a new federal initiative to find innovations in cancer knowledge and their application in cancer patients. Clinically we are seeing the beginnings of a major change in the management of many cancers with the introduction of immunological treatments. In Hawai‘i, we are fortunate to have the philanthropic support of Andrew Weinberg, Ph.D., from Maui with our own efforts in the laboratory to better understand the mechanisms of immunological treatment that will guide future clinical care.

Our scientists continue to do excellent work in Population Sciences and Cancer Biology. Our NCI External Advisory Committee completed their site visit in January 2016 and recently shared their observations regarding the progress made within the Cancer Center. They complimented the science, the enhancements being made in the Clinical Trials Office, the re-engagement of multiple components of the community with the Center, and the challenging, but necessary, operational changes that the faculty, staff, and leadership have initiated to provide a solid financial and operational base for the incoming Cancer Center director.

The NCI External Advisory Committee is positive about our continued improvement on many levels and has provided us with solid advice moving forward. The Cancer Center is also actively working with the highest levels of UH to share the great value that the Cancer Center brings to Hawai‘i. Over the last several months, the voices of community supporters from the Friends of the UH Cancer Center, community-based cancer-related advocacy groups, clinical trial participant cohorts, clinical oncologists, and those individuals and families battling cancer have all contributed to a greater awareness of the contributions of the various Cancer Center programs to the knowledge and well-being of the general public.

In the current Hawai‘i State legislative session, there is a request from UH leadership and the Governor for the state to provide supplemental support to help cover some Cancer Center faculty and staff base salaries, rather than continuing to deplete the Cancer Center’s cigarette tax reserves. This request is coupled with a business plan that shows additional steps that the Center will take to maintain its fiscal sustainability, great science, and support of local clinical trials. Requests for state support by UH, must be coupled with a long-overdue, responsible management plan for the Center that includes optimal use of facilities, reduction in position duplication, streamlined administrative processes, sustained faculty contributions to the financial stability of the Center throughout their careers, collaborations with community partners for cost reductions and development of new revenue streams, and a strong philanthropic base.

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Friends of the University of Hawai‘i Cancer Center

Dear Friends,

These are critical and urgent times for our UH Cancer Center.

Support of the Cancer Center is desperately needed.

2012 was a momentous year for the Cancer Center—researchers moved into a new research building in Kaka‘ako. This was essential because it consolidated operations and created functional labs.

Who would have imagined that in 2016, four years later, the Cancer Center would be at-risk?

The survival of the Cancer Center is now tenuous.

What is the value of the University of Hawai‘i’s Cancer Center?

• It provides leading cutting-edge cancer care for our community.
• It educates local physicians and provides access to the latest cancer breakthroughs.
• Research improves cancer care, prevention, and survivorship.
• Research finds new ways to improve cancer diagnosis and treatment.
• It is one of only 69 National Cancer Institute-designated cancer centers which attracts top cancer researchers to Hawai‘i.
• It fosters Hawai‘i’s economic development; each year approximately 20 million dollars in grants supports the local economy.

Members of the Friends of the UH Cancer Center have been enthusiastically and diligently working to advocate and support the Center. But more is needed.

Retaining this valuable community resource is going to require your action.

Contact your legislators NOW and tell them about how important having a Cancer Center in Hawai‘i is to you.

Those who advocate shutting down the Cancer Center need to realize that this operation is not a small local business where one can turn off the lights and walk away. The Center needs to fulfill its responsibilities to tenured faculty members, institutional partners, and federal granting agencies. Thus, closing the Cancer Center would not only jeopardize services but would leave UH with a loss of revenue.

I ask you to consider this a priority—be vigilant and directly communicate our situation to our legislators.

You are needed to make a difference.

The future of the UH Cancer Center is in your hands.

Sincerely,

Adelia Chung
President

Adelia Chung
President
Edward (Ed) Nagamine provides mechanical engineering services and technical assistance in the operations and maintenance of the UH Cancer Center BSL2 and BSL3 Laboratories and dry lab offices.

Carol Thompson is the administrative and fiscal support specialist for the Cancer Prevention and Control Program. She assists faculty and staff with the review, analysis, and preparation of administrative, fiscal, and personnel-related documents.

Melissa Hamada joined the Nutrition Support Shared Resource as a research dietitian/nutrition assistant. She reviews and codes diet histories, food records, and 24-hour dietary recalls of research participants.

Michael (Koa) Robinson is the School-based Project director for the Cancer Prevention and Control Program. Robinson manages and supervises projects conducted in public and private schools. These projects focus on social and behavioral health issues such as substance use and perception. They use methods such as focus groups and surveys.

Leslie Welsh is the coordinator for the Hula Study in the Cancer Epidemiology Program. She is responsible for securing Institutional Review Board (IRB) approval, participant recruitment, intervention implementation, and data collection.

Clinical Trials Office (CTO)
The CTO has hired new staff as the reorganization of the Clinical and Translational Research Program continues in order to better serve Hawai‘i Cancer Consortium partners and improve care for the people of Hawai‘i.

Ali Naderi, M.D., C.C.S.T.(U.K.) joined the Clinical and Translational Research Program with a focus on studying molecular functions of Prolactin-Induced Peptide (PIP) and androgen receptor (AR) in breast cancer and translating related discoveries to the clinical setting.

Elizabeth (Mendy) Dunn joined the CTO as the clinical trials manager. She provides operational management and oversight of clinical trials within the office.

Brittany Hamby, OnCore coordinator, is responsible for the implementation of the Clinical Trial Management System (CTMS) – OnCore. She serves as the liaison between the OnCore research users, technical support personnel, and policy makers.

Alyssa Hoekstra and Naomi Tanizaki joined the CTO as regulatory associates. They prepare study applications and patient consent forms for local site activation of national cooperative group, pharmaceutical-sponsored, and investigator-initiated clinical trials.

Erin Fukaya, Gregory (Greg) Smith, Heather Fillerup, Isobel Webster, and James Tom joined the CTO as research coordinators. Their responsibilities include conducting oncology clinical trials by enrolling eligible participants in available trials. They also fulfill data requirements for each trial, obtain consents, and provide education to patients for specific protocols.

Timothy (Tim) Coughlin is the administrative and fiscal support specialist. His responsibilities include scheduling, invoicing, purchasing, and assisting faculty and staff with preparation and review of administrative, fiscal, and personnel-related documents.

Patrick Nishimura joined the CTO as the clinical research administrative assistant and is responsible for the coordination of all phases of new clinical trial protocols from beginning to end.

Mileine (Maile) Quijano Jalalain is the CTO administrative officer and physician and HR/personnel liaison. She coordinates special projects and events for the CTO.

Olivia Fancy joined as the research assistant to provide program support for the CTO. Her primary role is that of the CTO courier.
International Symposium on Metal Compounds in Cancer Chemotherapy

A three-day international symposium on metallodrugs in medicine was hosted by and held at the UH Cancer Center in December 2015. The open forum that promoted collaborations among chemists and investigators had nearly 90 scientists attending from Asia, Europe, and the U.S.

The symposium, supported by the National Cancer Institute, was described as the first-of-its-kind that focused on clinical and experimental cancer chemotherapeutics through the general use of different medicines and metal compounds such as platinum, copper, titanium, and gold.

Fourth Annual Quest for a Cure:
Progress in Cancer Research

The 4th Annual Quest for a Cure, a community outreach educational program, which focused on advances made in the understanding and treatment of breast and colon cancers, was held at the UH Cancer Center in October 2015. More than 60 attendees heard from Cancer Center researchers, affiliated community cancer specialists, and breast cancer survivor Katie Manuma.

The annual event recognizes the progress made through cancer research that has led to routine screening, early detection, improved treatments, survival, and quality of life of individuals diagnosed with cancer. According to the National Cancer Institute there are more than 14.5 million cancer survivors in the U.S. today.
As a sansei, or third generation Japanese-American, I have been the privileged recipient of the values and sacrifices of my grandparents, parents, and loving aunts and uncles. The Japanese principles of Okage sama de (I am what I am because of you), Gokuro sama (thank you for your efforts/hard work) and Kodomo no tame ni (for the sake of the children), all envelop the spirit of gratitude and love for our past and hope for the future.

My elders lived these values, giving me a strong, loving foundation upon which to pursue my education and career goals, raise a family of my own, and finally to return that loving support and care in their final years. Even as their lives faded, they taught me priceless lessons of acceptance, patience, flexibility, and unconditional trust and love.

These ‘gifts’ are blessings that can never be adequately repaid, and I have been doubly blessed to have a life partner in my husband who shares completely in my values and priorities.

Since a number of my family have been stricken by cancer including my uncle Masami, who died of stomach cancer, we are honored to be able to further cancer research here in Hawai‘i and memorialize my uncle Masami with the establishment of the Masami Horio Memorial Fund at the University of Hawai‘i Cancer Center.

Please join us in supporting Dr. Scott Kuwada and others like him at the UH Cancer Center. They need our support to fund life-saving research.

Mahalo,
Ruby Mizue

If you would like more information on how you can support cancer research, please contact the UH Foundation Development Office for the University of Hawai‘i Cancer Center at (808) 692-0991.

The Recipient: A Researcher with a Personal Incentive for Studying GI Cancer

The Masami Horio Memorial Fund awarded $100,000 to Scott Kuwada, M.D., a professor in the Clinical and Translational Research Program at the University of Hawai‘i Cancer Center for his gastrointestinal (GI) cancer pilot study.

“Being awarded the Masami Horio grant to study gastric cancer is special for me since I too share a personal family connection to gastric cancer here in Hawai‘i. Both of my grandfathers were second generation Japanese, and one died from gastric cancer and the other from colon cancer,” said Dr. Kuwada.

Dr. Kuwada along with other collaborators recently discovered that a rare form of gastric cancer called gastrointestinal stromal tumor (GIST) occurs much more frequently in Asians than whites in Hawai‘i, and is strongly associated with helicobacter pylori infection.

Prior studies at the UH Cancer Center revealed that the higher risk for gastric cancer in early Japanese immigrants in Hawai‘i was due to helicobacter pylori infection in their stomachs which was acquired during their childhoods in Japan.

The grant will be used to identify novel molecular risk factors for gastric cancers, which could be used to identify individuals who might benefit from gastric cancer screening. “We intend to further develop evidence that there should be a gastric cancer screening program for individuals at higher risk for gastric cancers,” said Dr. Kuwada.
The Four Seasons Resort Hualālai donated more than $21,290 to the Friends of the University of Hawai‘i Cancer Center from its 2015 Run for Hope weekend. The resort raises funds through its annual Taste of Hawai‘i Island Dinner and Silent Auction, golf and tennis tournaments, and Run for Hope that coincide with the West Hawai‘i Cancer Symposium. In the past 13 years, the Four Seasons has donated more than $267,300 to the UH Cancer Center.

Cooling Cancer

The University of Hawai‘i Cancer Center recently celebrated CoolingCancer.org’s $45,000 gift raised with proceeds from a golf tournament.

“Over the last three years, this energetic, determined group has donated a total of $100,000 to support cancer research at the UH Cancer Center,” said Jerris Hedges, M.D., interim UH Cancer Center director. “Their support is making a difference for our researchers who are working hard to find ways to prevent and cure cancer, a devastating diagnosis that affects so many in our community. We are most grateful.”

CoolingCancer.org is a non-profit organization established in October 2013 to raise money for cancer research and patients in Hawai‘i.

“I chose to support the UH Cancer Center after learning that it is a world class facility with outstanding researchers right here in Hawai‘i,” said Andrew Santos, president, CoolingCancer.org.

Weinberg Foundation Gift

The Andrew and Mary Weinberg Foundation donated $150,000 to establish the Andrew and Mary Weinberg Cancer Immunotherapy Fund at the University of Hawai‘i Cancer Center. This fund will support research-related activities in cancer immunotherapy including the recruitment of a lead researcher in cancer immunotherapy, purchase of research supplies and equipment, expenditures related to meetings and conferences, travel expenses for speakers and recruits, and outreach and education activities.

“We hope this gift advances immunotherapy research at the University of Hawai‘i Cancer Center with the hopes of further developing new drugs for cancer patients around the world. I would also like to encourage others to donate to fund immunotherapy research at the Cancer Center, which has the potential to save many lives,” said Weinberg.

Four Seasons Hualālai Continues Investment in UH Cancer Center

The Four Seasons Resort Hualālai donated more than $21,290 to the Friends of the University of Hawai‘i Cancer Center from its 2015 Run for Hope weekend. The resort raises funds through its annual Taste of Hawai‘i Island Dinner and Silent Auction, golf and tennis tournaments, and Run for Hope that coincide with the West Hawai‘i Cancer Symposium. In the past 13 years, the Four Seasons has donated more than $267,300 to the UH Cancer Center.
The Friends of the University of Hawai‘i Cancer Center recognized two winners for its Excellence in Research Awards in October 2015. Each winner was awarded $4,500, of which at least 80 percent will go back into research.

**BAP1 Gene Predisposes to Mesothelioma**

Michele Carbone, M.D., Ph.D., director of Thoracic Oncology, was a recipient for his study, “Minimal asbestos exposure in germline BAP1 heterozygous mice is associated with deregulated inflammatory response and increased risk of mesothelioma.”

Read more about this publication on page 8.

**STAT3 Inhibitors Suppress Human Glioma and Breast Cancer Cells**

James Turkson, Ph.D., one of the UH Cancer Center’s chief academic leads and director of Natural Products and Experimental Therapeutics was recognized for his study, “Hydroxamic acid and benzoic acid-based Stat3 inhibitors suppress human glioma and breast cancer phenotypes in vitro and in vivo.”

In the study published in *Cancer Research*, Turkson and collaborators examined compounds that inhibit Stat3, a protein implicated in a variety of cancers that include brain and breast cancers.

The Excellence in Research Awards, sponsored by the Friends of the UH Cancer Center, recognize significant scientific publications of studies conducted by Cancer Center researchers. A panel of experts reviews the award submissions. The winners are selected based on how well the research advances the particular field of study, how it supports the overall mission of the UH Cancer Center, and the impact factor of the journal in which the paper was published. Impact factor is defined as a measure of the average number of times recent articles published in a particular journal are cited.
Related by BAP1 Gene Mutation

University of Hawai‘i Cancer Center researchers discovered that members of four families, apparently unrelated and living in different states across the United States, share the identical mutation of a gene called BAP1 that causes mesothelioma, melanoma, renal carcinoma, and other cancers.

In the findings published in *PLOS Genetics*, through genetic and genealogical studies by Michele Carbone, M.D., Ph.D., director of Thoracic Oncology and colleagues, it was demonstrated that the family members were related and that they all descended from a couple that immigrated to the U.S. from Germany in the early 1700’s.

“For about three years we travelled across the U.S. and the world to find evidence that linked these four families, their ancestors, and descendants in a large family tree of about 80,000 people,” said Dr. Carbone. “These descendants can be tested for BAP1 mutations, and if they are found to have inherited the mutation they can be followed for cancer prevention and also for early detection. For some of these cancer types this would be life saving.”

HMGB1: First Biomarker for Asbestos Exposure?

Haining Yang, M.D., Ph.D., associate professor in Thoracic Oncology, and collaborators may have discovered the first biomarker of asbestos exposure, precisely that the serum levels of a protein called HMGB1 are increased among asbestos workers compared to people who have not been exposed to asbestos. Moreover, they discovered that a specific form of the HMGB1 protein identifies those who have developed mesothelioma.

The discovery published in *Clinical Cancer Research* is relevant to the several million people in the U.S. and many more worldwide that may have been exposed to asbestos, according to the researchers. People exposed to asbestos are at high risk of developing mesothelioma, a cancer of the lining of the lungs and abdomen.

“HMGB1 serum levels were high among workers who had been heavily exposed to asbestos, and by testing for HMGB1 acetylation, we were able to identify those who had mesothelioma,” said Dr. Yang.

Testing Noni’s Effect in Prostate Cancer

Researchers will evaluate if noni has properties that can help fight early-stage prostate cancer in patients in a University of Hawai‘i Cancer Center study.

“There has been such strong belief through generations of Native Hawaiians and Pacific Islanders that the noni fruit possesses healing properties. Past laboratory research found anti-cancer properties in noni extract,” said Jeffrey Huang, Pharm.D., Principal Investigator and Assistant Specialist in the Clinical Sciences and Translational Research Program at the UH Cancer Center. “In our current Phase II study, we want to see if these properties will work in a specific type of cancer.”

The study will evaluate the genes within the tumors of the participants to predict the aggressiveness of the disease by measuring the Genomic Prostate Score (GPS). The score tests a panel of different genes specific for prostate cancer. Patients will get the GPS before and after the study to see if there is an improvement in their health.
In response to low national vaccination rates for the human papillomavirus (HPV), the UH Cancer Center joined with the 68 other National Cancer Institute-designated cancer centers in issuing a joint statement calling for increased HPV vaccination for the prevention of cancer. The recommendations included:

• All parents and guardians to have their sons and daughters complete the three-dose HPV vaccine series before their 13th birthday, and complete the series as soon as possible in children aged 13 to 17. Parents and guardians should talk to their health care provider to learn more about the benefits of HPV vaccination.

• All health care providers to be advocates for cancer prevention by making strong recommendations for childhood HPV vaccination. We ask providers to join forces to educate parents/guardians and colleagues about the importance and benefits of HPV vaccination.

Since 2006 the Food and Drug Administration has approved the use of the HPV vaccine as a safe and effective drug to prevent several types of high-risk HPV-related cancers. These include cervical, anal, oropharyngeal (middle throat), and other genital cancers. The HPV vaccination represents a rare opportunity to prevent many cases of cancers but is tragically underused.

The U.S. Department of Health and Human Services had targeted a vaccination goal of 80 percent by the end of this decade. However, the Centers for Disease Control and Prevention (CDC) reports only 40 percent of girls and 21 percent of boys in the U.S. are receiving the recommended three doses of the HPV vaccine.

In Hawai‘i the vaccination rates have remained low among boys (31 percent) and decreased in recent years among girls (38 percent). To address concerns for these low rates, the UH Cancer Center and the John A. Burns School of Medicine collaborated to conduct a survey of 120 primary care physicians statewide. Their findings were:

• Many physicians (83 percent) felt that parental lack of knowledge and understanding of HPV infection, and belief that their child was at risk for HPV infection were major barriers to vaccination.

• Physicians cited ordering, stocking costs, reimbursement levels, and insurance coverage as impediments to vaccination. These cost-related issues were significantly more burdensome to physicians in private practice.

• Over half of physicians (58 percent) reported that lack of follow-up was a barrier to the completion of the three-dose schedule, yet most did not use specific tracking or reminder systems to ensure dose completion.

• Fifty-eight percent of providers cited the lack of school-based vaccination requirements as a barrier to HPV vaccination.

“HPV-related cancers are preventable. The findings allow us to create more tailored educational and counseling resources for physicians and patients to help increase the HPV vaccination rate,” said Lee Buenconsejo-Lum, M.D., JABSOM associate professor and associate member of the UH Cancer Center.
Kāne Initiative Report to Community 2015

O Ke Ola Pono o Nā Kāne, the Kāne Initiative, convened participants and stakeholders of this statewide project for a Report to the Community on December 18, 2015 at the University of Hawai‘i Cancer Center. The Kāne Initiative strives to improve the health and well-being of Native Hawaiian men by conducting kūkākūkā (discussion) sessions. These sessions are based on the cultural practice of the hale mua (men’s house), where men met with other men. The Kāne Initiative is a project of Ke Ola Mamo, O‘ahu’s Native Hawaiian Health Care System, and is guided by the Kāne Committee.

The event was held to thank and provide a project update to stakeholders, including men who had participated in the discussion groups, funders, and other partners. Kāne Committee members and Kevin Cassel, Dr.P.H., the principal investigator for the report, provided information and data on project outcomes and future plans. It was reported that more than 20 kūkākūkā sessions were conducted in eight communities on O‘ahu, Kauai, Moloka‘i, and Hawai‘i island, reaching about 170 men.

During the event Kāne Initiative participants were invited to speak, and many of the men felt comfortable in sharing their kūkākūkā session experiences, including those who completed fecal immunochemical test (FIT) screenings for colon cancer.

These men spoke about the importance of being screened to detect early colon cancer, and their willingness to spread this message through the Kāne Initiative’s hale mua model to other men. More than 40 kāne discussion group participants, mostly from O‘ahu, attended this event with nearly 65 attendees.

The UH Cancer Center is a member of the Kāne Committee and partners with other organizations on this project including the HMSA Foundation, State Department of Health Hawai‘i Comprehensive Cancer Control Program, Native Hawaiian Health Care Systems, ‘Ahahui o nā Kauka (Association of Native Hawaiian Physicians), and American Cancer Society.