Philanthropy is fueling hope for cancer immunotherapies that melt tumors
Cures start here with game-changing research

LAST FALL, Dr. David Maloney got to do something many researchers dream of: sit at the bedside of the first patient to receive a potentially game-changing treatment. The therapy uses T cells to attack cancer. Fred Hutchinson Cancer Research Center scientists, led by Drs. Stan Riddell, Mike Jensen and, more recently, Cameron Turtle, spent years developing the therapy and watching it eradicate cancer in mice. But approaches that work in the lab don’t always work in people, and Maloney remembers an anxious wait as the T cells flowed into his patient’s bloodstream.

As you’ll read in this issue, that patient and some other study participants—patients with advanced blood cancers that weren’t responding to traditional therapies—have experienced very encouraging results, with some tumors vanishing within weeks of just one treatment. Not every patient responds — yet, the promise is there. Cures are being achieved when other options do not exist. So, the Hutch’s priorities must be to maintain the resources, atmosphere and know-how to perfect this therapy.

The progress of our immunotherapy research is just one of many accomplishments I am proud to have presided over as president and director. Over the past few years, we have become a more visible institution that identifies and promulgates innovation; one that has an eye on translating discoveries into real therapies.

Recently, new programs here have emerged, including fresh approaches for targeted therapies for cancer and other diseases and approaches to cure genetic blood diseases through gene editing and cord blood transplantation.

Fred Hutch is also devoted to finding new ways to prevent disease — something that is the focus of my own research.

Dr. Larry Corey
President and Director
Colette Ulloa's dance troupe Pure Joy rehearses for Mo-dazz for the Arts Dance for a Cure fundraiser to benefit Fred Hutch cancer research.
LEARN MORE ON PAGE 14.

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Summer 2014

FEATURES

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Imagine a day when a cancer diagnosis could be followed with an outpatient therapy that eliminates the disease and feels no worse than a case of the flu. With the help of generous funding from the Bezos family and thousands of other supporters, researchers at Fred Hutch are working to make it happen. BY ANDREA DETTER

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Chef Russell Lowell is renowned for his Seattle-area restaurants and tantalizing culinary abilities. But he’s also raised hundreds of thousands of dollars for Fred Hutch. For him, cancer is personal. BY SABRINA RICHARDS

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The vitamin D effect

Research reveals another possible benefit of the sunshine vitamin

“Vitamin D is certainly having its day in the spotlight,” said Dr. Caitlin Mason, a researcher on a Fred Hutchinson Cancer Research Center study showing that healthy vitamin D levels may be associated with weight loss in some women.

The study — published in the British Medical Journal and part of the larger Vitamin D, Diet and Activity (ViDA) study — looked at D3 supplementation among a group of overweight women ages 50 to 75 who tested low in D. The study found women whose vitamin D levels rose to what is considered a healthy level lost more weight, body fat and waist circumference than those whose levels did not become replete or who were assigned placebo.

The results are part of a growing body of research suggesting healthy levels of the vitamin are crucial; other studies have linked insufficient D to cancer, heart disease and other illnesses.

The problem, scientists say, is that people don’t think about checking their vitamin D levels like they do cholesterol or blood pressure.

“Vitamin D is something people are really familiar with,” Mason said. “But there are dangers with it being too low or too high. It’s best to talk to your doctor about getting tested so that any supplementation you take is really personalized. That’s the biggest take-home message.”

By Diane Mapes

Halting herpes

Finding aids efforts to prevent disease transmission

Couples in which one partner is infected with genital herpes and the other is not often ask their doctors how they can have a relationship without passing on this sexually transmitted disease.

To help address that problem, Fred Hutch researchers used mathematical models to predict viral loads below which transmission of the virus is unlikely to occur. In a study published online in the journal Interface, they found that treatments or interventions that maintain genital viral load below 10,000 copies would prevent most transmissions.

The defined threshold will help researchers assess new medications and other strategies aimed at preventing transmission, which is critical since there is no cure and the virus can be spread even in the absence of visible outbreaks.

Lead author Dr. Joshua Schiffer of Fred Hutch’s Vaccine and Infectious Disease Division explained, “Most of the time, the virus is cleared quickly enough so that an infected person is not even aware that the virus is reactivating. But there’s still enough time to transmit it to a partner.”

The Centers for Disease Control and Prevention estimates that one in six Americans ages 14 to 49 is infected with the virus.

By Mary Engel

Learn much more about the ABCs of vitamin D online at fredhutch.org/vitamin-d
OBLITERIDE FEVER

Seattle landmarks — from the Pacific Science Center arches and the Seattle Great Wheel to University Village and the Two Union Square skyscraper — glowed orange this spring, highlighting the approach of Obliteride. The annual bicycling and fundraising event is coming up Aug. 8-10. With four spectacular routes to choose from, three days of festivities, and every dollar raised benefiting cancer research at Fred Hutch, it’s a weekend not to be missed.

REGISTER TO RIDE AT OBLITERIDE.ORG
AUG. 8-10, 2014

PREVENTION

Landmark savings

Women’s Health Initiative trial’s value measured in lives and dollars saved

In 2002, the Women’s Health Initiative (WHI) revealed a stunning finding: Combined hormone therapy (CHT) was not the fountain of youth it was touted to be. Yes, it helped women combat hot flashes, bone loss and other menopause symptoms, but at a cost. CHT significantly raised a woman’s chances of developing cardiovascular disease, stroke and breast cancer.

The landmark study, co-led by Fred Hutch’s Drs. Garnet Anderson and Ross Prentice, triggered a rapid decline in the use of CHT — and an ongoing debate regarding risk versus benefits.

But what if there had been no WHI study?

Investigators at the Hutchinson Institute for Cancer Outcomes Research (HICOR) recently answered that question.

“The economic return from the trial is substantial,” said Dr. Joshua Roth, lead author of the new study. “The original National Health Institute trial cost was $260 million (in 2012 dollars) and the net economic return was $37.1 billion. That’s a return of approximately $140 on every dollar invested in the trial.”

More importantly, the 2002 findings sparked a sea change in women’s health. The new analysis, published in the Annals of Internal Medicine, projected that approximately 4.3 million fewer women used CHT, resulting in 126,000 fewer breast cancer cases, 76,000 fewer cases of cardiovascular disease and 80,000 fewer cases of venous thromboembolism in the decade following the trial.

Those decreases, Roth said, more than offset the projected downsides: 263,000 more osteoporotic fractures and 15,000 more colorectal cancer cases.

Anderson, study co-author, director of Fred Hutch’s Public Health Sciences Division and principal investigator of the Hutch-based WHI Clinical Coordinating Center, said, “These findings underscore the significant role clinical trials play in science and the importance of continuing to find ways to strategically invest public research funds to maximize value to society.” — By Diane Mapes
Living longer, healthier lives

Dr. Dan Gottschling is unraveling why cancer risk soars after age 40

BY JUSTIN MATLICK

DR. DAN GOTTSCHLING has spent more than a decade using yeast cells to make key discoveries about the aging process. His research is paving the way toward understanding how a person’s genes and diet influence how well they age, how long they live, and their risk of suffering from cancer and other diseases. Gottschling sat down with Quest to talk about the possibility of finding new ways to ease aging’s effects — and about how studying one of nature’s deepest questions changed his outlook on life.

What made you decide to study aging?

I went to an epidemiology talk and saw a graph of the relationship between age and cancer risk; it was flat until about age 40 and then it went up exponentially. In other words, your chance of getting a nonhereditary cancer before you’re 40 is very small. Then it goes up really fast.

If you’re a man who lives to age 55, you have a 50 percent chance of getting a tumor between then and the end of your life. Women have about a 33 percent chance over that same period. I was about 40 when I went to the talk, so it really caught my attention!

Why is it useful to study aging in yeast cells?

All the consequences of aging, whether it’s cancer or Alzheimer’s disease or drier skin, stem from underlying processes in cells. If we can understand those processes, they can have big implications for understanding the diseases and other things that happen downstream.

Yeast cells are ideal models for this. There are an immense number of research tools available because people have studied yeast for a long time. The cells grow fast. So we started looking for changes in yeast that happen as a function of age.

Can you walk me through one of your key discoveries?

We knew that mitochondria (the parts of the cell that make energy) malfunction as cells age, and we knew this dysfunction contributes to cell damage. But we didn’t know what caused the malfunction.

So we studied it in yeast and found that mitochondria were being affected by another part of the cell called the lysosome. The lysosome is important for removing molecules that are damaged when cells undergo stress, such as aging. It also stores molecules like amino acids, which are essentially building blocks for the cells.

We found that the lysosome’s acidity was changing with age and it wasn’t performing its storage function as well. That was disturbing the mitochondria’s
ability to function. That research shows how we’re defining this cascade of events that makes cells genetically unstable, something we know can lead to cancer. My gut tells me there’s a similar connection in people.

What’s your next step?
We need to integrate genetic and environmental factors to help us see how cell aging is affected by what you eat, what environment you’re in and who your parents are.

A lot of people think genes are the main key, and there are projects to sequence the genomes of octogenarians and centenarians to see what’s different about them. I’m not so confident they’ll uncover a single answer. The interplay and connections between cells and tissues is very complex, and all of them are influenced by genetics and the environment. The complexity is enormous. Just knowing that someone has gene A or B compared to someone else might not tell us much. We need to understand how all the different factors work together.

Is it overwhelming to face such a complicated problem?
No— it’s exactly why I became a scientist. We’re learning that many things can’t be fixed by a simple pill, even though that’s often what we want. I believe our thinking has been too simple. Curing a disease is akin to illuminating an entire neighborhood. You don’t just show up with a light bulb and have the whole neighborhood awash in light. You first have to put in all the wires and make sure the bulbs are screwed in properly.

Basic scientific research like mine helps us understand all those connections and how they work together — how the system is built, and what the effects are when you tweak the material that goes into it. Maybe in the future someone will be able to put all that information together and identify how to manipulate these different factors to improve our health. I would love to know the answers, but I’m also old enough to understand that I may not see them myself. But someone will, someday, and it’s exciting to move them closer.

Does coming face to face with these weighty questions change how you see the world?
I think about aging a lot for my work, and that’s made me think about it a lot more in general, especially now that I’m in my 50s. Some people become incredibly afraid of death as they get older. But it doesn’t bother me as much as it used to — I’ve come to accept that it’s part of the continuum. It’s gotten hard for me to separate the science of getting older from getting older myself.

Do some people’s cells simply age better?
Yes. We’re all different and it comes come back to this combination of genetics and environment. I can tell you about my father and father-in-law. They were born within a month of each other. My dad still bowls five days a week and is very active. My father-in-law is bedridden, unfortunately. Everyone wants to understand what accounts for this difference — it’s the big question. I really think our little yeast will help us answer it.

How will understanding aging lead to better health?
We can prolong life in yeast cells by changing their genes or changing what we feed them. The hope is that we’ll eventually be able to modulate aging’s effects in people too, either with food or other lifestyle changes, with drugs, or even by genetically altering certain tissues.

In an ideal world, we’d learn how to make the aging process less of a slow decline and more of a square function — you’ll be healthy and feel good, and then all your systems will go down at once. I think that’s the best fate we can hope for.

Write to Justin Matlick at jmatlick@fredhutch.org
Could this little thing be the next big thing?

Hope for a world where tiny T cells and other immunotherapies eliminate cancer, without side effects, is possible thanks to ‘catalytic philanthropy,’ including a $20 million gift.

The tiny white cloud at the tip of this test tube is made of cancer-fighting T cells — enough, Fred Hutch researchers are finding, to melt away some tumors.

Photo by Bo Jungmayer / Fred Hutch
Imagine a day when a cancer diagnosis is followed not with surgery or months of chemotherapy or radiation or all three but — possibly — with a therapy administered at an outpatient clinic that eliminates the disease and feels no worse, perhaps, than a case of the flu. Scientists across the country are beginning to talk frankly about the future of immunotherapy in just such a way. With the help of generous funding from the Bezos family and thousands of other supporters, researchers at Fred Hutch are working to make it happen.
the fall of 2013, researchers at Fred Hutchinson Cancer Research Center gathered at the bedside of a lymphoma patient about to undergo a new cancer treatment — the very first human in a first-in-human trial.

Dr. David Maloney, a Hutch oncologist who specializes in developing immunotherapies for blood cancer patients, was there. It was his patient and his trial, testing the safety of immune T cells reprogrammed to recognize and destroy the patient’s disease.

“We were kind of on pins and needles,” Maloney said. “The first infusions are always somewhat nerve-wracking.”

The 30-minute procedure went smoothly, with Maloney and the team scrutinizing vital signs while he chatted with his patient, as he does at every infusion, he said, “so they’re not totally full of nerves.”

Days later, something remarkable happened. “Around day 14 or so after his T cells, his comments to me were that the lymph nodes in his neck felt like ice cubes melting,” Maloney said. “We knew that was not the chemotherapy because I’d just given him higher doses of chemotherapy, and he had not even responded at all. So we knew the T cells were clearly doing something — in a very resistant tumor.”

For Maloney, it offered a fresh glimpse of the possible: a future in which cancer could be wiped out with something as simple to administer as an infusion of T cells, leaving healthy cells untouched so the patient would experience few side effects.

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“We once you see that happen once, you know you’re really on to something — that this is a really exciting new area of therapy,” he said.

But in research, exploring entirely new areas is only possible with the help of donations.

POTENTIAL TOO HUGE TO IGNORE

In April, Fred Hutch received the largest single donation in its history: a transformative $20 million gift from the Bezos family to help unlock the potential of immunotherapies for lung, colon, breast, pancreatic, ovarian and other common solid-tumor cancers.
“We’ve followed the work Fred Hutch scientists have been conducting over the last few years,” said Mike Bezos when the family announced the gift, “and are so encouraged by the spectacular results in patients with leukemia and lymphoma. The potential to now attack other cancers with this approach is too huge not to take this research to the next level.”

While the concept of using the human immune system against cancer is not new, what is new — and still rapidly evolving — is scientists’ ability to manipulate that system to create therapies targeted so specifically at cancer that they don’t affect healthy cells.

Research teams across the country and around the world are exploring a variety of ways to achieve that goal, and a growing number of stories in the media are raising the public profile of cancer immunotherapy.

Results from trials of the early incarnations of these experimental therapies keep pointing to their huge potential, which the Bezos family’s gift will help Fred Hutch researchers tap.

Dr. Larry Corey, Fred Hutch’s president and director, emphasized that the Bezos family’s gift will enable Hutch researchers to be “as creative as people can be to move the field of immunotherapy forward. We want to improve our potential to effectively treat and cure cancer. That is really what the goal is.”

The donation also provides a foundation that allows each additional dollar raised, whether from an individual or through a granting agency, to be transformative as well. Just as the scientists learn from every experiment and every trial participant — whether results confirm hypotheses or dismantle them — “catalytic philanthropy” at the Hutch is about maximizing the power of every contribution. And it’s a model with a track record.

FROM PIE IN THE SKY TO REALITY

Fred Hutch currently has half a dozen early-phase clinical trials open to test various forms of T-cell therapy in dozens of patients with leukemias and lymphomas, Merkel cell carcinoma (an uncommon but particularly aggressive skin cancer), melanoma and certain sarcoma subtypes.

In the past decade, more than 150 patients have enrolled in Hutch trials of various cell-based immunotherapies alone, and with the growing number of new trials on the horizon, another 150 could be treated with T-cell therapies in the next 18 to 24 months.

“This is still in its infancy, it’s still early on,” Maloney said of the treatments now being tested, “but it’s moved from something pie in the sky to reality.”

Maloney’s trial involves genetically programming patients’ T cells to produce a chimeric antigen receptor, or CAR, that enables them to target certain leukemia and non-Hodgkin lymphoma cells for elimination. CARs blend the power of

IMMUNOTHERAPY SUPPORT: EVERY DOLLAR COUNTS

Since 2004, more than 5,800 donors have contributed to Fred Hutch’s immunotherapy research with a total of 8,839 gifts ranging from $1 to $20 million. Collectively, those donations have provided more than $49 million to support the development of cancer immunotherapies.

A CHALLENGE MADE AND MET

In 2009, the Bezos family, which is active in the Seattle philanthropic community as well as with programs around the country, made its first gift to immunotherapy research at Fred Hutch. The family structured it as a challenge, as Jackie Bezos said at the time, “to help (the Hutch) secure, for the long term, a diverse group of supporters and to rally a community around science that has the potential to benefit us all.”

Rally it did. The $10 million challenge was met in just a year, and in the nearly five years since that gift, more than 3,800 individuals and organizations joined the ranks of benefactors supporting immunotherapy research at Fred Hutch. That backing helped build essential infrastructure that few research centers have in-house as well as fast-track projects, particularly those aimed at improving T-cell therapies.

The science gained momentum, and approaches that appeared increasingly promising in the lab steadily advanced toward the ultimate testing ground: human trials.

*2014 data as of April 29
antibodies — proteins that specialize in precise recognition of disease targets — with the prowess of T cells, which, once triggered, can eliminate diseased cells and, often, retain the memory of that threat in order to swiftly respond should it reappear in the future. Unlike antibodies, which are only effective until the body breaks them down, T cells may continue to multiply, serving as a living therapy.

Maloney works closely with “a great clinical team” of research nurses, trial coordinators and other highly specialized staff members, as well as Fred Hutch research colleague Dr. Cameron Turtle. Turtle, who leads another ongoing CAR T-cell trial, is instrumental in coordinating the production of CAR T cells and in the sophisticated monitoring of patients’ immune responses following therapy. This work is critical for the team to understand exactly how the treatment works.

Engineering and producing these special T cells is labor-intensive. In addition to refining the therapeutic effects, scientists will need to develop ways to scale the technology before it can become a mainstream approach. But from the patient’s point of view, the procedures can be simple enough to seem almost anticlimactic — if the stakes weren’t so high.

Early-phase trials like this one are, Maloney said, “pretty much reserved for patients who have failed primary options.” Although participants have typically exhausted the standard treatments for their disease, some of the responses to the experimental therapy have been dramatic, with tumors vanishing from scans within weeks or months of the T-cell infusion.

But not every patient reacts that profoundly, and that, too, drives Maloney and his colleagues.

“There have been some patients where we’ve treated them and had initially good results and then their lymphomas come back or the T cells haven’t persisted,” Maloney said. “We need to figure out why it works in some people and why it doesn’t work in some people. We’re learning a tremendous amount from every single patient … But we’ve seen enough encouraging activity to know that this process can work, can work extraordinarily well and, at least in our trials so far, has been associated with manageable toxicity.”

When Fred Hutch researchers started transplanting stem cells taken from circulating blood rather than from bone marrow in the 1990s, “it seemed like a whole new arena because we were doing almost the whole treatment outpatient,” Rochester said. “It was really a huge step.”

The new immunotherapy trials are direct descendants of those efforts, offshoots of discoveries made about the immune system’s curative role in transplantation. Rochester said the ongoing trials are giving her that same sense of momentous change, sometimes in surprising ways.

One recent Saturday morning, for instance, Rochester ran into one of her patients and the patient’s spouse at a favorite neighborhood restaurant. Less than three weeks after receiving the experimental T-cell therapy, “there they are, having breakfast,” Rochester said. “Seeing them out at a restaurant — wow, they’re having a normal life — that you don’t see with transplant patients.”

Joanne Rochester, a Fred Hutch/Seattle Cancer Care Alliance transplant nurse, has cared for the 14 patients treated to date on Maloney’s trial and is encouraged too. “I am seeing people go through this with less-severe side effects,” she said.

And Rochester has seen a lot since she started working with Fred Hutch trial participants during the early days of bone marrow transplantation. Those blood cancer patients faced an arduous journey, many quarantined in sterile laminar air-flow rooms — known as “bubble rooms” — to protect them from infection after their own immune systems had been destroyed with high-dose chemotherapy and total-body irradiation.

Rochester said she and the other nurses had to gown up in sterile garb to go in and treat patients. “Only one person at a time could go in,” she recalled, as patients waited for the donor cells to take root, or engraft, and blossom into a new, cancer-free immune system.
THE POTENTIAL OF WHAT’S TO COME

What could come next, however, as new technologies converge with generous philanthropic support to ignite more progress in cancer immunotherapy, has people even more excited.

Fred Hutch Executive Vice President and Deputy Director Dr. Fred Appelbaum, who started working on immune-based therapies at the Hutch in 1978 when he was recruited to help pioneer bone marrow transplantation, said, “On the one hand, you have this extraordinary evidence that the immune system can eradicate common solid tumors. And on the other hand, we have, for the first time, the ability to really probe these tumors and figure out what is abnormal about them. We can sequence the DNA and find out their mutations and therefore the abnormal proteins and therefore the targets for immunotherapy.”

Identifying and understanding new targets is one of a host of challenges presented by solid-tumor cancers. Target discovery is an enormous undertaking given the diversity of tumor types and subtypes, but Fred Hutch researchers have already found a handful of candidates in breast, lung and Merkel cell cancers.

Scientists at Fred Hutch and elsewhere are also learning how cancers deflect and usurp the body’s defenses. Tumors can recruit other cells to their neighborhood that dampen the immune response. They can erect walls of tissue that keep therapies, including chemotherapies, from penetrating. The uptick in genetic changes that happens in cancer cells can also cause them to stop producing the very markers that T cells and other parts of the immune system use to recognize the disease.

Cloaking themselves in anonymity, shielding themselves behind healthy tissue, or throwing up smoke screens of cells and molecules that shut off the immune response — once they get a foothold, cancers rarely cut the immune system any slack. Undaunted, teams at Fred Hutch are actively working to overcome these challenges, including by combining immunotherapies with conventional treatments and with other new immunotherapies.

Those are just some of the first next steps. Other Hutch researchers are looking even farther ahead. One possibility under study involves injecting nanoparticles that would redirect the immune system to attack cancerous tumors. In such a scenario, T cells wouldn’t need to be isolated from the patient and manipulated in special labs; instead they would be programmed right inside the patient’s body, perhaps within days of diagnosis.

Though such a treatment does not yet exist, it is no longer a mere fantasy. But turning ideas like these into cancer treatments requires time and funding. The new gift from the Bezos family will kick start these newest waves of work by bringing “the broader expertise that’s here at the Hutch into immunotherapy,” said Dr. Stanley Riddell, an internationally renowned immunotherapy researcher and member of Fred Hutch’s Clinical Research Division.

Experts in fundamental cancer biology, clinicians with vast experience in treating patients with common solid-tumor cancers, and immunologists can team with leaders in techniques like genomic profiling and mass spectrometry to learn how current immunotherapies work — or don’t — and develop even better strategies going forward. Those kinds of collaborations are “not the kind of thing you can write a grant for,” Riddell said.

Despite the complexity of the task, there is an undeniable sense of optimism that pervades the offices, labs and meeting spaces at Fred Hutch. Each win reinforces the excitement and each setback only renews the commitment and inspires greater ingenuity. And that’s really how medical advances emerge. The fact that so many supporters are partnering with Hutch research teams to catalyze this work just ensures that the next advances, like those that brought us here, will truly belong to everyone.

“It needs to work better even than it’s working now,” Maloney said of immunotherapy, which is why continued funding for future research remains so critical. “The support of many diverse projects within the study of immunotherapy, it’s exciting. It takes a broad brush to come up with these kinds of breakthroughs.”

♫ Write to Andrea Detter at adetter@fredhutch.org
Many paths led Dr. Jim Kublin to where he is today: executive director of the HIV Vaccine Trials Network (HVTN), based at Fred Hutchinson Cancer Research Center. A good place to start is the 16 days he spent struggling to finish the 1,000-mile Yukon Quest sled-dog race — the lesser known and more demanding cousin to Alaska’s Iditarod.

“You talk about the long haul, and the incredible patience that’s required to really see it through to the finish, and the perseverance,” he said recently.

Kublin was recalling the 1992 race from Fairbanks, Alaska, to Whitehorse, Yukon, when he was 30 years old. But he could have been talking about leading the world’s largest clinical trials network in the marathon quest to develop and test an HIV vaccine.

TURNING POINT

Kublin grew up in a Michigan mining town. The son of an ophthalmologist, he found work and role models in the town’s iron-ore mine warehouse and foundry during high school. “I was surrounded by people who hadn’t had a lot of advantages growing up,” he said. “It just gave me an appreciation of the struggles that many people experience in this country.”

After two years at Georgetown University in Washington, D.C., he dropped out to work in Nicaragua on a malaria-eradication campaign — only to come down with the disease himself.

“That’s when I first learned about malaria,” he said, “and became fascinated by just the elegance and biology of this parasite’s life cycle.”

It became a lifelong love affair. In addition to his work heading the HVTN, today Kublin is medical director of the Malaria Clinical Trials Center at Seattle Biomed.

Nicaragua proved a turning point. Kublin returned to Georgetown to focus on biology and pre-med and went from uninspired student to the dean’s list. He was in his first year of medical school at Georgetown in 1984, the year HIV was found to cause AIDS.
FROM MALARIA TO HIV

Kublin’s internship at New York’s St. Vincent’s Hospital in 1988 put him in the AIDS epidemic’s West Village epicenter. The hospital was filled to capacity, with gurneys in hallways. But even that did not prepare him for sub-Saharan Africa. He and his wife, Zara, and their young sons, Gus and Henno, moved to Malawi in 1998, where he ran a research program and worked as scientific coordinator for a malaria initiative. He found whole villages decimated by HIV, with no one left but elders and orphans.

Antiretroviral treatment, by now resurrecting patients from near death in developed countries, was not yet available in Africa. So Kublin started doing what other U.S. and European workers were doing — getting colleagues back home to send expired but still usable drugs. Then came wrenching decisions on who should get his tiny stash of pills. The drugs were no match for the immensity of HIV in Malawi. The hospital morgue overflowed daily.

Like Nicaragua, Malawi was transformative for Kublin. Having come to work on malaria, he left with a passion to help find an HIV vaccine.

STAYING THE COURSE ON THE ROAD TO A VACCINE

In 2004, after a three-year stint working on an HIV vaccine at Merck Research Labs, Kublin was lured by Dr. Larry Corey, a world-renowned virologist and now Fred Hutch’s president and director, to coordinate operations across the HVTN.

The HVTN conducts all phases of clinical trials, from evaluating experimental vaccines for safety and the ability to stimulate immune responses to testing vaccine efficacy. A model for collaborative global research, its trial units are located at research institutions in 27 cities on four continents.

The road to an HIV vaccine has proved challenging. One of the deepest disappointments came in 2007, just before Kublin took over as executive director. A major trial had to be halted when it was found that the vaccine neither prevented HIV infection nor reduced the amount of virus in the blood among vaccine recipients who became infected with HIV. In some cases, it could make the recipient more susceptible to the virus.

Kublin was devastated. When he told his children what had happened, his then 9-year-old-son, Gus, after a pause, replied, “But you’re not going to give up, are you? It’s too important.”

The next day, Kublin called the team together and told them what Gus had said.

“He conveyed that to us to keep us going,” said Niles Eaton, HVTN director of site operations. “We needed to hear that.”

RENAISSANCE MAN

For his 50th birthday three years ago, Kublin’s colleagues made a word cloud of phrases used to describe him. Renaissance man topped the list, though “brilliant” and “approachable” — traits not always seen together — were not far behind. So was “steady leadership.”

“In science, an experiment doesn’t fail, it informs us. He reminds us of that,” said HVTN project manager Sue Ferguson, Kublin’s assistant. “There have been rough waters, but he’s a phenomenal leader. He gives you so much room to bring your best every day.”

Last October, the HVTN opened a state-of-the-art laboratory in South Africa, which has the highest rates of HIV/AIDS in the world. Next year the network will launch a series of clinical trials there. One will test a modified version of a vaccine that prevented about 32 percent of new infections in a six-year trial involving more than 16,000 adult volunteers in Thailand. The study, published in 2009, was the first to show that a safe and effective HIV vaccine is possible.

A vaccine may be the prize at the end of the marathon, but the man described as driven to make a difference savor interim victories as well. The huge effort that goes into setting up trials provides humanitarian benefits that often go unrecognized.

“Large trials require formidable infrastructure and training and raise standards of clinical care — a lasting resource,” he said.

Write to Mary Engel at mengel@fredhutch.org
Dance like you’re fighting cancer

Colette and Luis Ulloa boost Fred Hutch’s cancer research with dance

BY DR. SABRINA RICHARDS

COLETTE ULOA puts her whole body into the work she loves. Ulloa fights cancer with the power of dance.

As a member of the adult jazz dance ensemble Pure Joy, she performs each May in Dance for a Cure, a fundraising event presented by Mo-dazz for the Arts that benefits Fred Hutchinson Cancer Research Center. Her performance is the culmination of countless hours of rehearsing, attracting sponsors and organizing.

“It’s a really hands-on, down-in-the-trenches way to support cancer research,” explained Ulloa, adding that funding cancer research is really about the next generation. “We want to help provide cures for kids down the road.”

A personal connection drew Ulloa and her husband, Luis, to Dance for a Cure. Neither had grown up dancing, but they were attracted to it by close friend Elizabeth Lanning. Lanning established Mo-dazz for the Arts, a pre-professional dance company, in 1989. Lanning organized the first Dance for a Cure auction event in 2004 to honor both her sister, Tricia, who was being treated for sarcoma, and the researchers at Fred Hutch and Seattle Cancer Care Alliance who made it their mission to help her.

Over the next decade, Dance for a Cure evolved from humble beginnings in a high school auditorium to Benaroya Hall, the home of the Seattle Symphony. Along the way, the event has raised more than $400,000 for cancer research and the patient families at Pete Gross House, a housing facility that caters to patients undergoing long-term treatment at SCCA.

In 2009, the first year the Ulloas danced, they were struggling with an all-too-personal reminder of cancer’s toll: Luis Ulloa’s vibrant 34-year-old sister, Viviana, died from stomach cancer. Colette Ulloa still dances in remembrance of Viviana, holding up a neon pink sign at the end of her performance: “Viviana we miss you.”

Offstage, the Ulloas are also members of Fred Hutch’s Innovators Network (IN). Through IN, they and other young professionals committed to accelerating early-stage cancer research meet scientists like Dr. Jim Olson. After being “blown away” by Olson’s presentation at an IN event about Tumor Paint — an agent he developed that lights up cancer cells so surgeons can better see and remove them — Colette Ulloa recommended him as the 2014 Dance for a Cure keynote speaker. “It’s inspiring to hear them talk about the science,” she said. “People at Fred Hutch are so passionate. It really makes you feel invested.”

Write to Sabrina Richards at srichar2@fredhutch.org
Renowned Seattle-area chef ‘all in’ for Fred Hutch
Russell Lowell takes supporting cancer research personally

BY BONNIE ROCHMAN

IT’S ALL ABOUT THE ELK. Russell Lowell likes to cook them and serve them with garlic mashed potatoes. His seasonal “restaurant” is a cozy canvas tent in a forest glade near Anacortes, Washington, and the table is set with white linens, fine china and flickering candles. Inside is a full bar. Outside is a blazing fire pit. And nearby there’s an impromptu kitchen where the elk meat, which tastes like a cross between beef and venison, is pan-seared.

People like to pay a lot for this wild-game winter dining adventure. And Lowell, a renowned Seattle-area chef, likes to earmark the proceeds for cancer research. Since his first “Elk Camp” in 1994, Lowell has raised hundreds of thousands of dollars for Fred Hutchinson Cancer Research Center.

Lowell’s fervor for fundraising is no secret. He’s not what you’d call subtle. Diners at his two Seattle-area restaurants, Russell’s and The Garden Cafe at Molbak’s, are accustomed to his pitch. “They come to my restaurant and have a glass of wine, and the people who know me say, ‘Oh, he’s going to talk about giving money, for sure,’” he said.

For Lowell, the calculation is clear. “They have the money, they have the resources, they should give to the Hutch,” he said.

Lowell’s experience with cancer is personal. His grandmother died of breast cancer when he was 9 years old. His cousin was diagnosed with colon cancer at age 22. And his mother survived breast cancer only to succumb to bladder cancer. Wondering what he, as a chef, could do to help advance knowledge about the disease, Lowell decided the key was in helping fund research. Sometimes, that means Elk Camp or private dinners; sometimes it means making life fun for researchers. “When my mom got cancer, I held a cooking class for the researchers to get them motivated,” Lowell said. “I figured if they’re all pumped up, they’ll work harder. We started calling it Kitchen Lab.”

For years, Lowell has served on the advisory board for Fred Hutch’s annual Premier Chefs Dinner, a four-course, $250-a-plate extravaganza prepared by the Northwest’s top chefs. This year’s event was held May 18. Since the inaugural dinner more than 20 years ago, the evening and auction have raised over $5 million to support research at Fred Hutch.

Lowell’s affinity for cooking began when he was 15 and started working in the kitchen of a French restaurant in San Diego, where he grew up. There he learned the rigors of French cuisine, precision cooking he’s carried over to Russell’s.

Over the years, he’s worked at restaurants on the East Coast and in Hawaii, cooked for heads of state and heads of large companies, and catered for what he calls the “glitterati of Seattle.”

One account he reminisces about is Gerard Schwarz, who served as music director of the Seattle Symphony for more than 25 years. Lowell cooked for Schwarz and many visiting musicians, including cellist Yo-Yo Ma and violinist Itzhak Perlman.

He’s also prepared meals for Elton John, Nelson Mandela and Martha Stewart. “She loved my food,” Lowell said.

Lowell isn’t running Elk Camp this winter. Instead, he donated dinner for 20 at an elegant stone mansion in Woodway, Washington — an event that was auctioned off at the Premier Chefs Dinner. Moreover, he’s committed to keep raising funds and awareness on behalf of Fred Hutch. “I’m going to keep doing this, keep asking for money,” Lowell said. “I’m in.”

♫ Learn more about Premier Chefs Dinner at www.fredhutch.org/chefs
Dottie’s Bridge

‘Mother of bone marrow transplantation’
Dottie Thomas establishes endowment to assist young researchers

BY DIANE MAPES

METICULOUS EDITOR, TIRELESS ADMINISTRATOR and avid sportswoman, Dorothy E. “Dottie” Thomas has always been a force to be reckoned with, whether armed with a hunting rifle or a red pen.

The 91-year-old wife of Fred Hutchison Cancer Research Center’s Nobel Prize-winning bone marrow transplant pioneer, the late Dr. E. Donnall Thomas, Dottie has been called the “mother of bone marrow transplantation” thanks to the nearly 60 years she spent working at her husband’s side.

“Dottie did it all,” said Dr. Fred Appelbaum, executive vice president and deputy director of Fred Hutch. “She was everything from Don’s early-on lab technician to the writer of his grants to his administrator to the person who kept all the records and reviewed all the papers.”

Dottie Thomas can now add major benefactor to her many roles, thanks to the creation of Dottie’s Bridge, an endowment designed to grow and then help young promising researchers bridge the gap between the end of their National Institutes of Health-supported fellowship and their first grant award.

“After you’ve finished your formal training, there’s a gulf between that time and the point where you have enough data and experience to really warrant a position as a full faculty member,” Appelbaum said. “That gulf is where Dottie’s contribution is going to be important. It’s the late adolescence/early adulthood of someone’s career.”

The Thomases’ lifelong collaboration began at just such a time, while they were both attending the University of Texas at Austin. Shortly after an auspicious meeting (Dottie hit her future husband in the face with an errant snowball), the two became inseparable. They married in 1942, and while Don went on to Harvard Medical School, Dottie switched her field of study from journalism to medical technology.

The couple began working together fulltime in 1955 when Dr. Thomas was appointed physician-in-chief at the Mary Imogene Bassett Hospital in Cooperstown, New York. It was there that he began his first experiments in bone marrow transplantation. In 1963, the Thomases moved to Seattle. They joined Fred Hutch in 1974.

The couple hosted many young researchers at their home in Clyde Hill, often serving up game the couple had bagged themselves.

“There was a great picture of Dottie with a shotgun in one hand and a moose head in her lap,” Appelbaum said. “And Don or Dottie would often nod to the picture of her with the rifle and say, ‘I sure hope you get all of your manuscripts in on time.’”

With the establishment of Dottie’s Bridge, designed to help young physicians and clinician scientists engaged in blood-related cancer research become independent academic researchers, Dottie’s legacy of commitment, hard work and passion will carry on for years to come. In a time of shrinking federal funding, the generous seed money gifted by Dottie Thomas is more essential than ever. Her hope is that others will help grow the endowment to support and encourage the next generation of researchers.

To contribute to the Dottie Thomas Endowment, use the envelope in this magazine or donate online at fredhutch.org/questdonate. If you’re interested in supporting the endowment through a planned gift, or if you have questions about Dottie’s Bridge, contact Mike Rubin, philanthropic gift advisor, at 206-667-5377 or mrubin@fredhutch.org.

MORE ONLINE

The Dottie Thomas Endowment is designed to benefit promising early-career researchers, such as Dr. Daniel Egan. To read his story, visit fredhutch.org/quest

Dr. Daniel Egan. Photo by Bo Jungmayer / Fred Hutch

Dorothy E. “Dottie” Thomas. Photo by Susie Fitzhugh for Fred Hutch
Leave your legacy for Fred Hutch

“Fred Hutch gives hope.”
— Lora-Ellen McKinney, Ph.D., a planned giving benefactor

Dr. Lora-Ellen McKinney knows that world-class cancer treatments require world-class research. As a member of Fred Hutch’s Institutional Review Board (IRB), she helps evaluate the design and conduct of our clinical trials. Through her IRB experiences, Lora-Ellen recognizes the potential to give hope and save lives through clinical trials, so she has established a bequest to help underwrite future trials.

You too can include Fred Hutch in your will or trust, contribute securities, designate Fred Hutch as a beneficiary of a retirement account, or donate an insurance policy to help save lives and leave a legacy for the future.

Visit fredhutch.org/PlanYourFuture

Need help starting a will?
Get a free guide

Photo by Yuen Lui

206.667.3396   fredhutch.org/plannedgiving   800.279.1618
The Mariners are as passionate about baseball as Fred Hutch is about beating cancer and other life-threatening diseases. To help us continue our lifesaving work, please give through the enclosed envelope or visit fredhutch.org/questdonate

Helping kids be kids

The Seattle Mariners’ Michael Saunders and Logan Morrison visited Hutch School, our fully accredited K-12 school program, before touring the Fred Hutch campus in early May. Saunders, pictured, and Morrison gave baseballs and autographed photos to Tyresse and his fellow Hutch School students. Hutch School is a place of hope and learning, a place where kids can be kids.

Photo by Robert Hood / Fred Hutch