A Hard, Joyous Journey to Mental Health
Speaking Up

Earlier this month, UW Medicine held a fundraising event for several hundred people. These events aren't news in and of themselves, of course; it's the cause that matters. In this case, that cause was mental health — more specifically, the creation of the UW Medicine Behavioral Health Institute at Harborview.

Jürgen Unützer, our chair of psychiatry, notes that there is no health without mental health. Yet, as a society, we still find it hard to talk about mental illness. At the event and in this magazine — which highlights the courageous story of one of our own employees, Lisa Lovejoy — we are opening the discussion and stand ready for you to join us.

Sadly, this summer brought something my colleagues and I were not ready for: the sudden death on Aug. 1 of one of UW Medicine's greatest friends and advocates, Jeff Brotman. He was an intelligent and dynamic man, perhaps best known for co-founding Costco and for his family's tremendous generosity to our community.

Jeff always did the right thing. He knew his own mind, he spoke up, and his tenacity and energy made UW Medicine a better organization. We will miss him, we will remember him, and we will follow his example.

Sincerely,

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A final note: my colleagues and I hope that you enjoy this new, redesigned version of UW Medicine magazine.
“Looking back, I realize how much rodeo taught me. I learned how to work hard to succeed, how to be disciplined,” says Justinn Lahaye, a third-year medical student and Montana resident. “Doing well in school and being a good rodeo athlete helped me get scholarships, and I’m so thankful.”
Right after someone dies, it’s hard to remember that they’re gone. The other day, I drove to work and my first thought was: where’s Jeff’s car? Later, I was at a budget meeting and wondered: why isn’t Jeff in his usual seat?

It catches me off guard every time. And I’m glad it does, because I don’t want to lose the immediacy of my grief. We were more than colleagues; he was one of my dearest, most trusted friends.

When you’re looking for a business partner — which is what Jeff and I were doing 30-some years ago — you’re looking for intelligence, vision and persistence. Really liking and enjoying that business partner is a gift. I remember hitting it off with Jeff immediately; he was a charming guy. And a good thing, too, because we spent a lot of time together. The other day, I was calculating how many miles we logged on business flights over the last 35 years, and it totaled around 6 million.

About 20 years ago, we were on one of those flights, and when the plane landed, we were chagrined to find that we had the wrong paperwork. We needed Chinese visas, but what we had were visas from the Republic of China (Taiwan). The military guard rolled his eyes at our idiocy. Although we eventually got the right visas, our adventures weren’t over. A few days later, as we were leaving China, airport authorities intercepted us, locked us into a tiny white room, and left us to cool our heels.

About 90 minutes into our wait, Jeff looked me in the eye. “This is another fine mess you’ve gotten me into,” he said.

I like to think that Jeff and I were a much more efficient, productive team than Laurel and Hardy, at least where Costco was concerned. We made all our major decisions together, whether it was about a merchandising opportunity, a new site or a new partner.

This is not to say that we didn’t argue. Of course we did. We had some doozies over the years, but here’s the thing: they didn’t last more than a day. Jeff never harbored animosity towards anyone. We’d see each other and exchange a hug — it’s very difficult to be angry with someone when you’ve just given them a hug — and we’d work past our difficulties.

I imagine Jeff taught other people the same kinds of lessons he taught me: laugh a little at your problems. Don’t hold on to anger. And, of course, be bold. In later years, when reporters asked us if we were surprised by Costco’s success, I always gave the literal answer: yes. Because our original business plan had us developing, at max, 12 stores.

Jeff gave the better answer, the one that delivered the joke. “Well, I always knew it was going to be that big,” he said with a twinkle. “Jim just lacks my vision.”

We were a great team. Together, we lived through many scary moments as we built our business, but many more happy times as we celebrated every success over the past 35 years.

All of those memories are indelibly fixed in my mind. I’m going to miss him very much.
Frank Bret remembers the Gestapo officer, unyielding and proud, as if it were yesterday. It was the late 1930s, and Czechoslovakia was occupied by Nazi Germany.

“We plan to be here for 1,000 years,” the officer told him. And he and his men refused to give Bret — under compulsory service in the Czech air force — an exit visa.

When Bret fled to Poland, and then to France, seeking to be of military service, the German occupation followed him. He then made his way across Europe, arduous travel that included sleeping under bridges, getting arrested, and stealing away aboard a ship bound for Great Britain. Eventually, he became a bomber pilot for the British Royal Air Force.

There are other adventures, too: Bret’s stay in India, during the struggles that led to the creation of Pakistan; meeting a “beautiful creature” at a swimming club in Riverside, Calif. (his wife of 68 years, Elizabeth); and the couple’s work in the Executive Service Corps, which sent experts like Bret on interesting and sometimes risky international development trips.

Bret held high positions in the hospitality industry, including serving as the president of Disneyland Hotel, and what he enjoyed most was developing employee talent. “I always felt I should do something important with my life,” he says. And when it came time to celebrate Frank’s 100th birthday in 2017, the Brets gave it some thought. Have a big party? Go on a cruise?

“No,” says Bret. “Those things are all fleeting.” Instead, the couple decided to create an endowed fund for eye research at UW Medicine. The Brets are particularly interested in macular degeneration, a condition that has left Frank Bret nearly blind.

“I wanted to do something that would mean something,” says Bret. “People coming behind me will benefit.”

FRUIT FLIES & NOBEL PRIZE

For conducting important research on circadian rhythms in fruit flies, UW alumnus Jeffrey C. Hall, Ph.D. ’71 (genetics), along with Drs. Michael Rosbash and Michael W. Young, is being awarded the 2017 Nobel Prize in Physiology or Medicine. The three isolated a gene that controls the normal daily biological rhythm in fruit flies, following its production of protein and further exposing and investigating cellular clockwork. This work, says the Nobel Assembly, allowed researchers to “recognize that biological clocks function by the same principles in cells of other multicellular organisms, including humans.”

The Associated Press conducted a video interview with Hall shortly after he received the call. Sitting on his front porch, he deflected the recognition that comes with the prize, paying homage to the scientists that preceded him. “We owe a lot to how the fundamental factors and phenomena were established by many, many investigators going back more than 100 years,” he says.
“My dog is retired now,” says radiologist David A. Moeller, M.D., Res. ’80, with a laugh. An outdoor enthusiast, fond of hunting and fishing, Moeller used to bundle his black lab, Jasmine Rose, into his float plane. Then the two of them would venture out into the Alaska bush to hunt ducks with Moeller’s friends.

Though Jasmine Rose is now too old for hunting trips, Anchorage resident Moeller (age 68) continues to work. “I still like radiology, the challenge of it,” he says. “I can have a big impact on someone’s life.” The alumnus also enjoys giving back, having made a gift through his will to create a chair in radiology at UW Medicine.

“I’m really, really fortunate,” he says, “and I’d like to pay back the honor and opportunity I was given.”

For the sixth consecutive year, in August 2017, UW Medical Center was ranked the No. 1 hospital in Washington state and in the Seattle metropolitan area by U.S. News & World Report. It also received top-20 national rankings in cancer care (No. 5, provided through Seattle Cancer Care Alliance), rehabilitation medicine (No. 5, run jointly with Harborview Medical Center), and geriatrics (No. 20), as well as national rankings in several other areas. Two other UW Medicine hospitals, Harborview and Valley Medical Center, joined UW Medical Center in being rated among the magazine’s “Best Regional Hospitals.” Relatedly, Valley received high marks for treating heart failure and performing hip and knee replacements, Harborview was nationally ranked in orthopedics and as high-performing in urology, and Northwest Hospital & Medical Center was rated high-performing in hip replacements.
John Ross, Cincinnati Bengals wide receiver and 2017 University of Washington alum, has been called the “NFL’s fastest man” after running the fastest 40-yard dash in NFL combine history. But he says he might not have made it to professional football without Albert Gee, M.D., Husky Athletics team physician and surgeon in the Department of Orthopaedics and Sports Medicine.

Ross grew up in Long Beach, Calif., the first member of his family to go to college. In 2014, he tore the meniscus in his right knee during a Huskies game. After surgery, he still favored the injured leg, and during practice a few months later, he jumped, fell and felt a snap — this time in his left knee. Ross was forced to sit out the entire 2015 UW football season.

With two injured knees, Ross and his coaches feared his football career was over. But Gee was up for the challenge, using interference screws to pull each torn knee joint together. It took months of physical therapy and hard work, but Ross was finally back in the game.

“Dr. Gee was very caring, always available, and he stayed on me to ensure I was going about things the right way,” says Ross.

Not only was Ross off the bench, he was faster than ever. During the 2017 NFL scouting combine, he ran an astonishing 4.22-second 40-yard dash, shattering a decade-old record. It secured his place as an NFL first-round draft pick.

“I owe a lot of the credit for my recovery to Dr. Gee, because of how hands-on and adamant he was about the things I needed to do to get back on the field,” Ross says.

“It was really a team effort,” says Gee of Ross’ recovery. “It’s the same great teamwork that our patients see every day at the UW Medicine Sports Medicine Center.”

Photo courtesy of the Cincinnati Bengals
Lisa Lovejoy spent years suffering with an undiagnosed mental illness. Harborview Medical Center changed the course of her life. By sharing her story, she hopes that other people will find the way to better health.
says Lisa Lovejoy. “Everything looked so nice on the outside.”

Her mother, the homecoming queen, married her dad, the handsome University of Washington student. They had a baby. They put on nice clothes, went to parties, sparkled. But the sparkle turned to arguments and anger when they were at home. Lovejoy’s parents were too different to get along.

The household was already stormy. It didn’t help that Lovejoy’s mother was depressed and anxious and felt the compulsion to vacuum the house at 2 a.m. And that, when Lovejoy was just 3 or 4, her mother began to pull away. The abuse started a few years later.

Home, the place that was supposed to be safe for a sensitive kid like Lovejoy, was not safe at all.

At Her Wits’ End

At 50, Lovejoy has a smile that lights up a room and a lively, self-aware sense of humor. If you’d met Lovejoy about 10 years ago, though, you would have seen a woman at her wits’ end. “Living… it was just unbearable,” she says. “Every time I went to that place in my head, I called it the darkness. It felt like I was falling down a chute, like I was sliding.”

Mental illness comes in many forms — schizophrenia, bipolar disorder, anxiety, depression, borderline personality disorder — but all these illnesses share a stigma: people don’t talk about them. The distressing truth is that most of us know someone with mental illness.

“One-third of Americans will have a mental health disorder, a substance-use disorder or both at
I called it the darkness. It felt like I was falling down a chute."

WHO DO YOU KNOW?
The first number to remember is 33 percent. One-third of the people in your circle — your family, your friends, your co-workers and neighbors — will experience a mental health disorder or a substance-use disorder, or both.

There are other numbers, too: in the U.S., someone dies by suicide every 15 minutes. Depression causes 10 percent of disability (more than heart disease, diabetes or cancer). And only 12 percent of people in Washington who need help see a psychiatrist in any given year.

If you or someone you love is anxious, depressed or unhappy, or if you have other concerns related to mental health, please don’t suffer in silence. There are solutions, and treatment works. Start by reaching out to your family doctor, your school counselor, or someone you trust.

DON’T WAIT
If you or someone you know is in crisis, please call:
The Crisis Clinic of King County 1.866.4.CRISIS
They can schedule next-day crisis appointments at Harborview or other local sites with behavioral health clinics.

The National Suicide Prevention Lifeline 1.800.273.8255
Lifeline Crisis Chat crisischat.org
Emergency 911

some point in their lives,” says Jürgen Unützer, M.D., MPH, M.A., the chair of UW Medicine’s Department of Psychiatry and Behavioral Sciences. “Unfortunately, no family goes untouched.”

When Lovejoy was a child and a young adult, she says, being miserable felt normal. “Back then, people just thought you had emotional problems,” Lovejoy says. “It took me a long time to get help.”

Dreams Deferred

In high school, Lovejoy’s teachers thought she was really smart, but that she just wasn’t applying herself. Most didn’t realize she was managing anxiety and the chaos of home life. Still, she maintained her GPA and was accepted by Bard College in 1986.

Lovejoy had hopes for her future. “I always wanted to do great things, to do things in the world,” she says.

Unfortunately, Lovejoy had her first major breakdown at Bard. She was lonely; she had episodes of both mania and depression; she lied to her teachers. “I completely fell apart in a short amount of time,” she says.

So Lovejoy came home to Seattle. She took a series of easy jobs and felt ashamed of them; she clearly wasn’t living up to her potential. And, by the time she turned 39 in 2007, her life was coming apart. Divorced and living in an attic apartment with her two children, Lovejoy was having trouble at work, and she was suffering from bouts of mania and depression.

At a doctor’s appointment, Lovejoy broke down and wept, and the doctor admitted her to the psychiatric unit of UW Medical Center. Lovejoy had hit bottom, or somewhere close. But she was relieved, too.

“Finally, someone noticed that I was miserable,” she says.

Even then, Lovejoy didn’t know exactly what was wrong. She would find out at Harborview Medical Center.
“Recovery is not a straight line.”

The Turning Point

Dialectical behavioral therapy (DBT), a type of cognitive behavioral therapy, brings together two therapeutic opposites: acceptance (through meditation, exercise and other activities) and change (through therapy and learned skills). It was developed by Marsha Linehan, Ph.D., ABPP, a professor of psychology at the University of Washington.

In a stroke of good fortune for Lovejoy, Harborview was doing research on DBT when, encouraged by a friend, she called the hospital. Doctors diagnosed her with borderline personality disorder and entered her into the trial, which involved group therapy and individual counseling.

“At first, I hated everyone in the group,” says Lovejoy with a laugh. She remembers that she and her cohort got real-world homework; they’d report back to the group for discussion and encouragement.

“Eventually, I noticed I was getting better,” Lovejoy says. “I just kept going.” She started exercising and meditating. She argued less with her boyfriend. She felt less depressed. The relationship with her kids improved.

Eventually, she came to love the people in her group; they inspired each other. “I saw examples of people who were getting much better,” says Lovejoy. “That gave me a lot more confidence.”

Working With Hope

“Lisa has always struck me as an extraordinary individual,” says Brigitte Folz, MSW, LICSW. Folz heads outpatient behavioral health programs at Harborview, including the Housing and Recovery Through Peer Services (HARPS) program, newly funded by King County.

Today, Lovejoy is a program coordinator for HARPS, and she and her co-workers help patients who, after leaving hospital-based behavioral health programs, need help with housing. “For someone who’s spent months in a psych ward at Western State Hospital, the prospect of looking for housing is extremely daunting,” Folz says.
Lovejoy works with peer support specialists or “peer bridgers,” people with lived experience with mental health issues who are certified to serve as peer counselors and role models for their clients. In her previous job, in fact, Lovejoy was a peer bridget. “So much of what we do is working with motivation and hope,” says Folz. “Lisa seemed just like a perfect fit for the HARPS program.”

Harborview and its faculty and staff offer more than physical health care. Their patients come from all walks of life, and some are hungry, poor and homeless. “All of these components have an impact on health,” says Darcy Jaffe, ARNP, Harborview’s chief nursing officer and senior associate for patient care services. “You’re not a healthcare provider if all you do is what you bill for.”

In the case of mental health and wellness, says Jaffe, Harborview is part of a team. The medical center works with government and non-profits to administer and plan programs like HARPS, and it’s work that makes Jaffe proud. “We live our mission, and you see it everywhere,” she says. Up to and including Lisa Lovejoy.

“I have so much respect for her — to overcome challenges, to talk about them, and to use them to make the world a better place,” says Jaffe. “Most people don’t have that kind of courage.”

Advice for the Journey

Lovejoy has spent the past few years untangling the threads of her life: reconciling with her family; getting married to her wife, Robie; working at a fulfilling job. She manages her bad days and appreciates the good ones. Meditation helps, as does therapy. She takes lithium: that helps, too.

As Lovejoy says, recovery is not a straight upward line: there are hills and valleys, stops and starts. This is a truth that patients need to hear, especially when they’re having a hard time.

“You can get back to that high point again,” she tells them. “It’s a zigzag. It’s a journey. And it’s hard and joyous.”

See Lisa Lovejoy’s video uwmedmagazine.org/lovejoy>

By Delia Ward
Photos: Mark Stone
When Tess Wilson was homeless, she remembers walking around the University District and watching the students, wishing with all her heart to be one of them. “I wanted better for myself, and I was willing to do anything it took to get there,” she says.

Wilson’s road to school started with a job as a massage therapist. Then she enrolled in community college, transferring to the University of Washington to earn a bachelor’s degree in environmental health and occupational health science, graduating cum laude. Her next step? Pursuing a doctorate in physical therapy — and receiving the Bonderman Travel Fellowship.
Created in 1995 by UW alumnus David Bonderman, the fellowship offers students the opportunity to travel the globe, solo, for eight months, observing and learning about other cultures and places. Wilson documented her travels to Ecuador, Tanzania, Vietnam and other countries in a blog: gotessgoblog.wordpress.com.

Along the way, the inequality and inequity Wilson saw made a deep impression. Although it was difficult to resist the impulse to help — Bonderman fellows are asked to observe and learn about other cultures and places, rather than volunteer — she says the fellowship taught her restraint and forced her to look at the bigger picture. “I think about health systems and how to do things sustainably now — how to promote the best outcomes where you have the stakeholders involved in the process,” she says.

Now back in Seattle, Wilson is finishing her degree, looking forward to applying what she learned during her travels to serving people in the community who are homeless. “I took so much away from this — not just about other cultures, but about myself,” she says. “When you keep your mind open to the possibilities, the world will show you incredible things.”

See more images at uwmedmagazine.org/bonderman
REVIVING A HEART

A MAN, A BOAT AND THE FUTURE OF CARDIAC CARE
“They say that blood is seawater,” says Jim Briggs, standing at the wheel of his boat.

While his wife, Cindy, secures the lines, Briggs assesses the craft’s readiness before heading out on the waters of Puget Sound. Are the pumps running? Are they pumping enough water, but not too much? Which way will the tide take the boat?

As the engine warms up, it smooths out audibly, with water pumping through and out the exhaust from both sides. As Briggs knows, the process is not unlike the function of the heart. Sometimes, hearts work well. And sometimes, as in Briggs’ case, they don’t.

A Declining Heart

“It never once occurred to me that maybe I should slow down and take another course,” says Briggs. “Not once.” He was used to an active life: diving, skiing and boating with Cindy and working long days distributing wholesale plumbing supplies.

When Briggs began having trouble breathing in 2001, he attributed it to allergies or a recurring bout of asthma. But his primary-care provider wasn’t so sure. And when chest X-rays showed signs of heart failure, it struck a chord — both Briggs’ father and sister had died young from congestive heart failure.

As he became sicker and tired more easily, Briggs was forced to cut back his schedule, working from home when he could. He had also received a defibrillator.

<table>
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<tr>
<th>YEAR</th>
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<tr>
<td>2001</td>
<td>Trouble breathing&lt;br&gt;Diagnosed with congestive heart failure</td>
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<tr>
<td>2002</td>
<td>Cardiac arrest in ER; referred to UW Medical Center&lt;br&gt;Implanted a defibrillator (a monitor capable of providing a life-saving shock)</td>
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<td>2002 through transplant</td>
<td>Treated with medications and ablation (a cauterization procedure) to reduce rhythm abnormalities</td>
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In 2002, Briggs came to UW Medical Center. Wayne Levy, M.D., UW professor of medicine in the Division of Cardiology, and Jeanne Poole, M.D. ’80, professor and director of the arrhythmia service and electrophysiology laboratory, treated Briggs with a combination of medical and electrical therapy to interrupt electrical impulses that create abnormal heart rhythms. Later, they gave Briggs a pacemaker-defibrillator, capable not only of restarting the heart but also of supporting a declining heart rate. In 2008, Briggs was upgraded again, this time to a cardiac resynchronization pacemaker-defibrillator.

Despite these state-of-the-art technologies, Briggs’ heart failure was getting worse. Even taking the trash can from their doorstep to the road would leave him winded and struggling for air. In April 2009, his heart was pumping so poorly that he was hospitalized with kidney problems.

“His heart failure continued to worsen, which is the problem with heart failure in general: it is a progressive disorder. For most people, ultimately it’s going to get worse and require more aggressive therapy,” says Poole.

It was time to talk about a heart transplant.

Waiting for a Transplant

Although Briggs was placed on a waiting list for a transplant, no one knew how long it might take. At any given time, UW Medicine has 40 to 50 patients waiting for a donor heart. Depending on their blood type and organ availability, patients can wait months, even years.

While Briggs waited, his doctors prescribed a heart stimulant to maintain cardiac function until the transplant. But when his health continued to deteriorate, he was scheduled to receive a high-tech left ventricular assist device (LVAD). While they’re awkward to manage, and not without risks of their own — infection, bleeding and increased stroke risk — LVADs can extend patients’ lives by years while they’re waiting for a transplant, allowing them to live with markedly improved quality of life at home while they wait. They’re also given to patients who may not be good candidates for transplant.

Daniel Fishbein, M.D., UW professor of medicine in the Division of Cardiology and the medical director of the UW Medicine Heart Transplant Program, was the one to deliver the good news: after just seven weeks, before they’d even had time to implant an LVAD, they had found Briggs a heart. The transplant took place on June 4, 2009.

“It was a whole new life,” says Briggs. “I didn’t realize how sick I was, and how lucky I had been, until I came home. My life started again right then and there.” Briggs retired, and he and Cindy gradually returned to an active life.
When Transplant is Not an Option

Eight years after his transplant, Briggs’ doctors are pleased with his recovery. “He’s done extraordinarily well,” says Levy. “He’s doing what needs to be done: taking his medicine and obtaining follow-up care.”

For those fortunate enough to receive a transplanted heart, the prognosis is good: patients can survive up to 30 years with a new heart. Still, only about 3,000 heart transplants are performed each year in the U.S. In contrast, millions of people in the U.S. suffer from congestive heart failure.

“Transplant is a wonderful therapy for people who get it,” says Fischbein, “but there is a clear need for improved therapies, particularly in older patients or patients who have medical conditions that preclude the possibility of transplant.”

At UW Medicine, investigators are working to create new therapies — and improve current ones — for people who need care. One of the most promising areas of investigation is stem cell medicine.

Using Stem Cells to Repair the Heart

“We think the only way we’re going to make the problem better is to create new heart muscle, and we believe pluripotent stem cells are the best way to do that,” says W. Robb MacLellan, M.D., head of UW Medicine’s Division of Cardiology and the Robert A. Bruce Endowed Chair in Cardiovascular Research. Pluripotent stem cells can produce any cell or tissue needed to repair the body.

MacLellan and his team are developing a universally compatible stem cell line to help rebuild heart muscle tissue. During a heart attack, a portion of the heart dies from blood vessel blockage and a lack of oxygen; within 3–4 weeks, the dead muscle will turn into non-functioning scar tissue. Injecting stem cells before that happens could allow the heart to form healthy new muscle tissue. Phase I clinical trials, focusing on the highest-risk patients, are tentatively scheduled for 2019.
The director of the Institute for Stem Cell and Regenerative Medicine and the Arra and Eva Woods Endowed Professor, Charles E. Murry, M.D., Ph.D., is also making major progress in stem cell medicine and cardiac repair. His lab recently demonstrated that damaged heart muscle in animal models could be repaired with human stem cells. Their first clinical trials are planned for 2019.

If successful, stem cell therapies could have broader applications to other types of disease.

“There’s scar tissue fibrosis formation in lung disease, kidney disease and liver disease,” says April S. Stempien-Otero, M.D., FACC, UW associate professor of medicine in the Division of Cardiology and the Craig Tall Family Endowed Professor in Heart Failure Research. “I think anything we learn from implanting heart muscle cells that are made from stem cells is going to help those other tissues.”

We Can Beat Heart Disease

Today, Jim and Cindy Briggs are advocates for conquering heart disease. Jim offers emotional support to patients waiting for a heart transplant, and Cindy serves on the executive board of the American Heart Association in Seattle and the South Sound. She says they’re inspired by the innovation and creativity they’ve seen firsthand at UW Medicine.

“I am so grateful that we had the opportunity to take that journey with all the nurses, doctors and everybody who knew our story and greeted us in the hallways and asked how we were doing,” says Cindy. “It was incredible.”

The Briggeses are confident about the future of cardiac research and care at UW Medicine.

“I feel ever more committed that we can beat heart disease,” Cindy says. “I hope it’s in my lifetime, because I want to see it, but I know it’s going to be done.”

See Jim Briggs’ video uwmedmagazine.org/briggs >

By Stephanie Perry
Photos: Doug Plummer
It hides in foods you know about — bread and pasta — and in those you might not expect: salad dressing, soy sauce, ground spice mixes and pie filling, for example. And all it takes is 100 milligrams — a few crumbs or drops — to trigger illness in a person with celiac disease. What is this sneaky little protein? Gluten. The good news is that its days of wreaking havoc on the digestive system may soon be over.

Ingrid Swanson Pultz, Ph.D. ’12 (microbiology), co-founder and chief scientific officer of PvP Biologics, has designed an oral therapeutic that renders gluten harmless, a breakthrough that could radically change the lives of those suffering from celiac disease.

Ambushed by Gluten

Affecting 2.4 million people in the United States, celiac disease is a disorder where the immune system attacks and damages the small intestine when gluten is ingested. Gluten, which originates in wheat, barley and rye, has infiltrated many a meticulously prepared meal — sometimes hitching a ride on contaminated food surfaces or lurking in processed foods.

When celiac sufferers are ambushed by gluten, they can experience severe abdominal pain, vomiting, diarrhea and headaches, among other unpleasant symptoms. “They can also develop long-term health issues like malnutrition, osteoporosis and rare cancers like lymphoma,” says Shirley Paski, M.D., a gastroenterologist at Cedars-Sinai Medical Center.

The only treatment for celiac disease is to eliminate gluten from the diet, a lifestyle that is both expensive and difficult to maintain. However, Pultz has developed a remedy that could lift the burden of this disease: KumaMax. It’s an enzyme in the form of a pill that breaks down gluten in the stomach, before it gets to the intestines where an immune response can be triggered.

KumaMax could fundamentally change the way people with celiac disease live their lives: at home, at work and with their friends. And it goes beyond eating. “Food is such an integral part of social interaction,” says Paski. “If clinical studies show efficacy, KumaMax could allow people to broaden their diet a bit and not worry so much about trace contamination of gluten.”

It Takes a Team

In 2011, Pultz, then a graduate student in UW Medicine’s Department of Microbiology, was advising a group of undergraduates participating in the International Genetically Engineered Competition (iGEM). Student teams collaborate to solve real-world challenges by designing new molecules or biological systems. “Some of the students had friends with celiac and wanted to create a therapy for the disease,” says Pultz.

The team had their work cut out for them. Many scientists, with many more years of experience, had already tried to identify a naturally occurring enzyme that
breaks down gluten, but they always ran into the same snag — the enzymes they found couldn’t survive the acidic environment of the stomach. “So we tried a different approach — first find an enzyme that could withstand the harshness of the stomach and then engineer it to break down gluten,” says Pultz.

Pultz and her team had experience collaborating with the Institute for Protein Design (IPD) at UW Medicine, known for its expertise in designing and researching new proteins to improve human health. With the help of cutting-edge software, Pultz and her team identified an enzyme and then customized it to attack gluten.

With the creation of the KumaMax prototype, the UW’s team became the first U.S. team to win the iGEM competition. Then Pultz arrived at a crossroads. She and the students were graduating. What would become of KumaMax?

“This enzyme was too promising to just let it languish on a shelf, so I took it on as a translational investigator at the IPD,” says Pultz.

**Giving it Her Best Shot**

“Our translational research program is pretty unique. It gives scientists time to hone their innovations and also provides a career path for entrepreneurship,” says Lance Stewart, Ph.D., MBA, senior director of strategy at the IPD.

But the road to commercial viability is complex and costly. Philanthropic support from the State of Washington’s Life Sciences Discovery Fund and donors — including Sarah and Mark Everitt, Lisa and Charles Simonyi, Ph.D., and others, including two anonymous donors — was crucial in helping Pultz refine her prototype at the IPD. Gifts allowed her to hone the enzyme’s effectiveness, perform rigorous testing and develop a cost-effective manufacturing method. To cross the final hurdle and get KumaMax into clinical trials, however, Pultz needed to strike out on her own.

In 2012, she co-founded PvP Biologics with David Baker, Ph.D., director of the IPD, and Justin Siegel, Ph.D. ’11 (biochemistry), a former co-advisor to the iGEM team. They have since brought on an experienced development team headquartered in San Diego, and they have established a partnership with a pharmaceutical company to begin human clinical trials.

“I couldn’t have predicted the evolution of this project, from a mere concept into a drug that could help people,” says Pultz. “Because of donor generosity and interest, KumaMax is getting its best shot. It’s been an amazing ride.”

Hear Ingrid Pultz’s podcast uwmedmagazine.org/pultz >

By Meredith Bailey
Photos: David Wentworth Photography
MEET THE WINNERS
Of the 2017 UW School of Medicine alumni awards. For their inspiring video stories, visit uwmedalumni.org and click on “alumni awards.”

Richard A. Kirkpatrick, M.D. '72
Distinguished Alumnus Award
Physician and Healthcare Advocate, Longview, Wash.
"So in a smaller town, you're it...it's you and the patient, and I like that. When I look back on my career and my life, I want to say I made a difference and I helped people not only in my exam rooms, but in the community as a whole. I think that's what makes me tick."

F. Bruder Stapleton, M.D., Res. '74
Distinguished Alumnus Award
UW Professor and Chair, Department of Pediatrics
Chief Academic Officer, Seattle Children's Hospital
"I've been honored to be involved in trying to develop a culture of diversity and inclusiveness, maybe because I grew up in the '60s and was very much concerned about civil rights. Everyone deserves respect. Not only should people be treated equally, but everyone should be given an equal chance."

Lois C. Thetford, PA-C
Alumni Humanitarian Award
Physician's Assistant, Puget Sound Neighborhood Health Centers
Homeless Healthcare Advocate and UW Faculty
"I think that homeless healthcare is a really big, important subspecialty within medicine, and that we need more creative ways of helping people get the care they need."

Paul K. Crane, M.D. '97, Int. '98, Fel. '03, MPH
Alumni Early Achievement Award
UW Associate Professor, Division of General Internal Medicine
Researcher and Educator
"The University of Washington is a profoundly good place. It is a world power in medicine. It is a world power in Alzheimer’s disease. And I feel humbled to be part of the faculty here."

J. Randall Curtis, M.D., Res. '91, Chief Res. '92, MPH, Fel. '97
Alumni Service Award
UW Professor of Medicine, Division of Pulmonary and Critical Care Medicine
Director, Cambia Palliative Care Center of Excellence
"I was interested in palliative care before we even had a term for it. There were lots of institutions around the country where that wasn’t supported and where people actually thought that was a little bizarre... I never felt that way at UW Medicine. I always felt like the value of talking to patients and their families, understanding what they needed, and finding a way to provide it was supported by my mentors, my bosses and the whole system."

To nominate a star alumnus or alumna for the 2018 awards, please visit uwmedalumni.org by Jan. 12, 2018, and click on “alumni awards.” The award form is one of the options.
Meet the UW School of Medicine’s entering class, also known as the “E-17s.”

270 STUDENTS ENROLLED

139 WOMEN

131 MEN

$3 MILLION IN SCHOLARSHIPS AWARDED

to students, including E-17s, 85 percent of whom have financial need

120 FIRST- AND SECOND-YEAR STUDENTS IN SPOKANE

With the creation of the Gonzaga partnership in 2016, we welcomed our largest-ever class in Spokane.

30 TRUST STUDENTS

The TRUST (Targeted Rural Underserved Training) program is a special track for students who already know they want to pursue rural medicine, and one of the many ways the School trains doctors for our region.

10 M.D.-PH.D. STUDENTS

The Medical Scientist Training Program prepares professionals with dual expertise in research and patient care.

Their Take on Med School

Students apply — and often get in — to multiple medical schools. Those offered a place at the UW School of Medicine enroll at a higher rate than at any other medical school in the country, says U.S. News & World Report in its Best Graduate Schools Short List. These students give us a glimpse into why this school is such a draw.

“I’ve been fortunate to have travelled extensively in my life, and every time I’ve returned after traveling, I realize how special the people in Montana are. The opportunity to spend the first two years of medical school in my home state was a huge draw of the WWAMI* program.”

Ian McCracken, Montana

“I was pleasantly surprised by how much class material is reflected in the clinic. Just the other day, we learned about the biochemistry behind diabetes, and the next day I had the opportunity to work with a diabetic patient and apply that knowledge during my preceptorship.”

Lingga Adidharma, Wyoming

“Medical school is even better than I imagined! Favorite part? Anatomy lab, without a doubt. Nothing beats hands-on learning!”

Lara Shefelbine, Montana

*WWAMI: the School’s five-state medical education system, including Washington, Wyoming, Alaska, Montana and Idaho.
Michael G. McNamara, M.D. ’87, writes, “Still practice orthopedic hand, elbow and shoulder surgery in Anchorage, Alaska! The WWAMI system really works!! I continue to work to pay for my passion of hunting, fishing and flying Super Cubs and a Cessna 206. My daughter Kirsten (27) is married and works in my office. Shannon (22) is engaged to a hunting guide/contractor, and my son, Jake (21) is completing his last year at Whitworth University in Spokane, Wash. My wife, Joanne, is helping with CPC in town and loves it. Life could not be better. God is good!”

Janet S. Chinn Chu, M.D. ’81, Res. ’84 (internal medicine), writes, “I retired from my GI practice last fall and am enjoying resuming hobbies and reconnecting with friends. My husband continues his emergency medical practice. My daughter just started her clinical rotations in medical school. I still have my son at home, but he’s a senior, so the nest will be empty soon.”

J. Donald Easton, M.D. ’64, writes, “Here I am at nearly 80 and still having fun working (thanks to the NIH, i.e., you taxpayers) doing stroke prevention clinical trials here at the University of California-San Francisco. If this is work, I don’t need retirement.”

Stephen G. Rice, M.D. ’77, MPH, was awarded a 2017 Citation Award by the American College of Sports Medicine (ACSM) for his significant lifetime contributions and innovations to the fields of sports medicine and exercise science at the college’s annual meeting in Denver, Colo.

John Steven Jarstad, M.D. ’84, writes, “We recently returned from a 10-day medical mission, organized by Charity Vision, with Mitt and Ann Romney. Teaming up with Indonesian eye doctors, we screened 750 patients and performed 150 cataract and six cornea transplant operations on several islands in Indonesia.”

Albert L. Jones, M.D. ’63, writes, “One of the many wonderful things about retirement is your freedom to travel. Our own UW Alumni Association has an outstanding array of tours. My wife, Sussan, and I took one to Africa. Our group found a village in Zambia where many of the children had severe cases of ringworm. Fortunately, our tour guide had a supply of anti-fungal ointment. If prepared, it is not difficult in some small way to make a difference as you travel.”
Julian Cecilio Perez, M.D. ’04, writes, “Still working at my dream job, as director of sports medicine with Sea Mar Community Health Centers in the newly remodeled White Center clinic. Teaching, catching babies, admitting. Go, family medicine!!! Celebrating 10 years of marriage to my wife, Antoinette. The light of our life is Solea (5), our daughter. Living in Seattle, cultivating community, celebrating our culture and still dancing with Bailadores de Bronce Mexican Dance Company.”

Melissa Lofgren Molsee, M.D. ’07, Res. ’10 (internal medicine), writes, “Two-and-a-half years after opening our mission hospital in northern Togo, we have seen over 30,000 new patients from 10 different countries across West Africa. It has truly been a roller coaster ride with high highs and low lows. We have experienced two outbreaks of Lassa fever, which killed our surgeon last year and necessitated the medical evacuation of one of our nurses. While it is challenging to continue to provide good medical care in the face of a deadly viral hemorrhagic fever, we count it a privilege to live among and serve the people of Togo.”

Alexandra Y. Hunt, M.D. ’12, writes, “Living in the gorgeous Sierra Nevada Mountains of California and practicing at a 14-bed critical access hospital. Getting to provide old-fashioned family medicine, cradle-to-grave care with inpatient and obstetrics. It is at times harrowing, but extremely rewarding. I enjoy being a part of such a rich community. Last month I had four generations of women in an exam room. I feel so grateful for the excitement and challenges that rural family medicine brings to healthcare providers.”

M.S./PH.D.

Howard A. Young, M.S. ’71, Ph.D. ’74, received the Honorary Life Membership Award from the International Cytokine and Interferon Society for his outstanding contributions to research in the field. Young is pictured with ICIS President Dr. Tadatsu Taniguchi.

Suzie Kwon, MOT ‘16, writes, “I graduated from the occupational therapy program, passed the boards, started my first job as an OTR/L in acute care, and got married! You could say 2016–2017 was a big year for me! Here’s a picture of me and my classmates (l to r: Kit Johnston, Sheila Dastanti, Suzie Kwon and Aleks Mazurek) at my wedding.”

MEDEX NORTHWEST

Barbara H. Burrowes, PA-C (Yakima Class 8), writes, “This October, I will have worked for Denver Health for 10 years, all of them for their school-based health clinic program. The idea is to bring care to where the kids are, so they miss minimal school while addressing healthcare needs. Because we have multiple-payor funding, we can provide services to all comers, including the uninsured, at no cost to them. It has been a good fit for me, and I feel like I am making a difference in my community.”
What was the most valuable thing you learned while getting an MBA?

At Hewlett-Packard, I’d learned how to hire and lead a great team. What I was missing was finance, legal, marketing — even union negotiations. I didn’t know much about account receivables, transfer pricing or audits. I was a zoologist by training, so it was all new and valuable to me.

What do you think of UW Medicine’s team?

Not only are the people at UW Medicine wicked smart, but their vision and commitment to making the world a better place are humbling. Just getting to be in the same room with such brilliant, ethical and hard-working people (the status quo at the University of Washington) is the best!

Why volunteer?

I volunteer at other wonderful places, but UW Medicine has always been so responsive to the world. Leadership is willing to discuss it when something needs to change. I’m also inspired by my fellow advocates.

What inspired your most recent gift?

We met cardiologist Dr. Karen Stout when my husband, Doug, had a heart attack. Karen also cared for the son of a dear friend, and without her research into congenital heart disease, he might not be alive today. We’ve also given to UW Medical Center and Harborview, and to Drs. Stan Herring [rehabilitation medicine] and Doug Smith [orthopaedics].

What do successful people in business and medicine have in common?

Vision. They imagine a better world and make things of value to their fellow human beings. They also develop strategies and specific, measurable goals. They’re analytical, and they develop metrics and methods for ongoing feedback. And in both groups, successful players choose and develop the next leaders in their field.

Final words?

The only tough part about donating is that there are so many needs for funds and advocacy at UW Medicine — we only wish we had more to give. But we definitely like knowing our money will be well-spent.

Photo: Dennis Wise
2018 UW School of Medicine
Reunion Weekend

Celebrating the classes of 1953 (E-49) • 1958 (E-54) • 1963 (E-59) • 1968 (E-64) • 1973 (E-69) • 1978 (E-74) • 1983 (E-79) • 1988 (E-84) • 1993 (E-89) • 1998 (E-94) • 2003 (E-99) • 2008 (E-04) • 2013 (E-09) and the 50-Year Association

FRIDAY, JUNE 1, 2018
Kick off the weekend at a Toast to the UW School of Medicine, an all-classes celebration at the Museum of History & Industry (MOHAI) on the shore of Lake Union.

SATURDAY, JUNE 2, 2018
Get caught up on the latest School of Medicine happenings at UW Medicine Today, then gather in the evening with classmates to reunite and reminisce at your class celebration.

RECONNECT.
SEE WHAT’S NEW.
CELEBRATE.

Learn more at uwmedalumni.org/reunion

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