The Cancer Moonshot mission

Industry partnerships boost U advances
A new perspective

Griffin Dahmen jokes around with his dad, Kurt, on one of his good days at University of Minnesota Masonic Children’s Hospital.

PHOTO: JILL DAHMEN
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Web extras produced by Nicole Endres and Shawn Sullivan

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Our path toward a true academic health system

Being part of an academic health system is critical as we strive to deliver on our clinical care, education, and research mission.

Last fall I announced in the Medical Bulletin that the University of Minnesota and University of Minnesota Physicians (UMP) were negotiating with Fairview Health Services to form a new, fully integrated academic health system. This was a significant step toward an important goal. Being part of an academic health system is critical as we strive to deliver on our clinical care, education, and research mission.

Unfortunately, after nine months of negotiations, we were unable to reach an agreement with Fairview. In July, the University and UMP terminated the letter of intent and began looking for other partners and paths that could help us achieve our goals.

We were disappointed that we could not reach an agreement. In the end, it became apparent that the University and Fairview don’t share a common vision for what a true academic health system needs to be. The University could not enter into an agreement that did not protect the academic and research mission that is so critical for this state.

The University of Minnesota and UMP share a mission rooted in academic medicine. We are dedicated to educating the next generation of care providers for our state, advancing health care through groundbreaking research, and delivering the highest quality care to patients from Minnesota and beyond.

Our overall goal has not changed. We know that a world-class medical school requires a world-class health system, just as a world-class health system requires a world-class medical school. We are committed to finding a new path to get there.

The Academic Health Center and UMP have started a strategic planning process that will consider a range of options going forward. We have heard from several health care organizations since the Fairview talks ended. We are lucky to live in a state with excellent health care options, providing many exciting possibilities for collaboration and partnership. In the meantime, we continue to work with Fairview through our existing University of Minnesota Health partnership.

We are confident that we will find new, innovative ways to ensure a positive future for our health sciences schools, faculty, patients, and state.

Brooks Jackson, M.D., M.B.A., Medical School Dean and Vice President for Health Sciences

Medical School names Tolar executive vice dean

Renowned pediatric blood and marrow transplant physician and researcher Jakub Tolar, M.D., Ph.D., has been named to the new position of executive vice dean for the Medical School.

In this role, Tolar is focusing on implementing the Medical School’s strategic plan. He will work closely with departments on recruiting and retaining faculty and increasing research and scholarship activity, work with centers and institutes to maximize productivity and impact, and partner with Medical School Dean Brooks Jackson, M.D., M.B.A., to achieve philanthropic and legislative goals.

“Jakub has ambition, experience, leadership skills, and a strong track record of research, clinical, and administrative success,” Jackson says. “He brings 24 years of commitment to our school, having served in roles as varied as student, resident, fellow, faculty, physician, administrator, and mentor. It is this breadth of experience that will be critical as he focuses on implementing the strategic plans for scholarship and research.”

Tolar—who also directs the University’s Stem Cell Institute, conducts research, and sees patients—is familiar with the challenges faced by clinicians, physician-scientists, and basic scientists alike.

“I believe this Medical School has the people we need to make us one of the best in the nation,” he says. “I hope to work with faculty and staff to identify and remove obstacles to success in recruiting and retaining faculty, performing meaningful research, and excelling at scholarship at the highest, most creative level.”
Vinogradov tapped to lead Department of Psychiatry

Internationally recognized schizophrenia physician-scientist Sophia Vinogradov, M.D., in August took over as the new head of the Medical School’s Department of Psychiatry.

Vinogradov comes to the University of Minnesota from the University of California, San Francisco School of Medicine, where she was professor and vice chair of the Department of Psychiatry and associate chief of staff for mental health at the San Francisco VA Medical Center.

Vinogradov is studying the use of cognitive training and other approaches to improve neural system function in the brains of people who have mental illnesses. She has pioneered the use of cognitive training exercises that specifically target deficient areas in the brain to restore more normal neural system functioning. With early intervention in young people who are struggling with their first symptoms of mental illness, she is hopeful that information-processing abnormalities can be slowed down or reversed with cognitive training, perhaps in many cases without the need for medication.

“This starts to open a revolutionary new path in psychiatry,” says Vinogradov, “one in which we focus on prevention, preemption, and the reversal of a potentially deteriorating course.”

The hire is a high-stakes one, as the University moves forward with important reformations to its policies on protecting human research participants, especially those who have diminished mental capacity, says Medical School Dean Brooks Jackson, M.D., M.B.A.

“Dr. Vinogradov is the right leader to move reforms forward; to implement the highest standards of ethical research; and to build a new culture of trust and cooperation as the department works to develop innovative, state-of-the-art programs of care for patients, and to conduct important scientific investigations that will lead to better outcomes for those with mental illness,” Jackson says.

U RESEARCHERS IDENTIFY A NONINVASIVE EYE TEST TO DETECT ALZHEIMER’S DISEASE

For the first time, technology designed to detect retinal changes linked to early Alzheimer’s disease has been proven effective in live animals.

The study, conducted by researchers in the University of Minnesota Center for Drug Design and published in the journal Investigative Ophthalmology & Visual Sciences in June, explored the use of a camera to noninvasively study the retina and detect any signs of Alzheimer’s disease in mice.

Researchers were able to visualize clear patterns of changes suggesting the eventual development of the disease.

“Using currently available detection methods, you have to wait until the plaque is formed to identify Alzheimer’s disease,” says Center for Drug Design director Robert Vince, Ph.D. “This technology is a noninvasive way to identify Alzheimer’s disease before plaque is formed.”

Researchers hope the technology will be able to detect early signs of Alzheimer’s in humans as well. A Phase I clinical trial designed to test the theory began in July.

Dr. Vinogradov is the right leader to implement the highest standards of ethical research; and to build a new culture of trust and cooperation.

– Brooks Jackson, M.D., M.B.A.

WEB EXTRA

Learn more about the clinical trial, which is now recruiting healthy volunteers with no family history of Alzheimer’s, as well as people who have been diagnosed with Alzheimer’s, or watch a video on how the test works at z.umn.edu/eyetest.
A billion reasons to celebrate

THE UNIVERSITY OF MINNESOTA Foundation’s Vision 2017 Campaign concluded on June 30 after surpassing its $1 billion fundraising goal — 15 months earlier than anticipated. Launched in 2007, the campaign raised private dollars to advance medicine and promote health at the University through the Medical School, School of Public Health, Masonic Cancer Center, and U of M hospitals and clinics.

In total, 77,674 donors contributed $1,052,283,342 for scholarships, faculty, research, new facilities, patient care, and academic programs on the University’s Twin Cities and Duluth campuses. Eighty-nine of these donors gave $1 million or more.

The dollars raised added $65.5 million in student support, created 248 new scholarships and fellowships, and endowed 36 new chairs and professorships. The Children’s Health Campaign, which was part of Vision 2017, ended in 2015 after raising $220 million for University of Minnesota Masonic Children’s Hospital and the Department of Pediatrics, far exceeding its $175 million goal.

“Our work isn’t done,” says Medical School Dean Brooks Jackson, M.D., M.B.A. “Vision 2017 will serve as a springboard, launching us into even bigger, bolder initiatives, such as ensuring healthy aging, solving addiction, expanding access to clinical trials, and eliminating health disparities.”

U receives $6.9 million NIH grant to continue brain connectivity research

Researchers at the University of Minnesota’s world-renowned Center for Magnetic Resonance Research (CMRR) were awarded a $6.9 million grant from the National Institutes of Health (NIH) to continue their efforts to map human brain connectivity as it relates to aging and development as part of the Lifespan Human Connectome Project.

The grant includes $3.6 million to investigate the structural and functional changes that occur in the brain during typical aging and $3.3 million to map the development of brain structure and function from early childhood into adulthood. Both projects will use sophisticated, non-invasive magnetic resonance imaging scanning.

This funding is part of a larger grant awarded to a consortium composed of four institutions: the University of Minnesota, Washington University in St. Louis, University of California, Los Angeles, and Harvard University. The four institutions will use imaging techniques developed at the University of Minnesota to collect similar data to create a large, publicly available database.

The CMRR also participated in the Human Connectome Project (HCP), a large brain mapping research initiative funded by the NIH five years ago.

“The mapping techniques we created in the HCP are truly transformative, allowing us to better understand how the brain is organized and connected,” says CMRR director Kamil Ugurbil, Ph.D. “With these new techniques, we are now in a position to ask about how the brain develops and changes over time, and how it is altered in diseases.”

The mapping techniques we created are truly transformative, allowing us to better understand how the brain is organized and connected.

– Kamil Ugurbil, Ph.D.
Develop new treatments for the disease.

Study changes in brain circuitry that affect people who have Parkinson’s disease using brain imaging and intraoperative techniques that Vitek pioneered;

Develop new approaches for stimulating the pallidum, a region of the brain that’s important for controlling voluntary movement; and

Explore the effects of stimulation on brain circuitry that mediates movement problems associated with Parkinson’s.

The University of Minnesota shares the elite Udall Center status with Harvard University, Johns Hopkins University, and six other institutions.

The University will use the grant to:

Watch a video about what sets the University of Minnesota apart at udall.umn.edu.

Medical School hires health equity Discovery Team leader

J. Neil Henderson, Ph.D., has been hired to lead the University of Minnesota Medical School’s Medical Discovery Team focused on health equity, rural health access, and American Indian health. He joined the faculty of the Medical School’s Duluth campus in August.

The Medical Discovery Team initiative was funded by the state Legislature last year, after Gov. Mark Dayton appointed a blue ribbon commission to develop recommendations to strengthen the Medical School. The funding is being used to recruit thought leaders to focus on pressing health issues facing Minnesota.

In addition to health equity, other Medical Discovery Teams will focus on addiction, the biology of aging, and optical imaging and brain science.

Henderson is a renowned researcher in the area of health disparities. His research focuses on medical anthropology, public health, and community-based interventions, including the impact of culture on health care dynamics and institutional and informal long-term care strategies in rural and urban communities. He comes to the University from the University of Oklahoma College of Public Health and directs the National Institutes of Health–funded American Indian Diabetes Prevention Center.

“The Medical Discovery Team concept is an excellent vehicle for achieving outstanding results,” says Henderson, an enrolled member of the Choctaw Nation of Oklahoma. “The ability to work within a variety of medical and social systems to find solutions and to collaborate with Native communities and rural populations through the process provides a unique opportunity to improve quality and access to care.”

A MARK OF EXCELLENCE IN PARKINSON’S DISEASE RESEARCH

The University of Minnesota has been named a Udall Center of Excellence for Parkinson’s Disease Research. The honor, which comes with $9.07 million in National Institutes of Health grant funding over five years, charges a U team with defining changes in brain circuitry that cause Parkinson’s and using that information to improve deep brain stimulation and develop new treatments for the disease.

“At the University of Minnesota, we have a world-class, multidisciplinary team to treat patients with Parkinson’s disease,” says Jerrold Vitek, M.D., Ph.D., head of the Medical School’s Department of Neurology, who will lead the effort. “And because of our significant experience and expertise, we are able to take on this complex and often debilitating movement disorder with a goal of improving patients’ lives.”

U introduces B.A./M.D. pipeline

Minnesota needs a physician workforce that is as diverse as its population.

But it’s a complex process that involves not only attracting and admitting top candidates from broadly diverse backgrounds, but also retaining them through residency and practice.

That’s why the University of Minnesota Medical School is partnering with the Office of Undergraduate Admissions and the College of Liberal Arts (CLA) to launch a new B.A./M.D. pipeline program on the Twin Cities campus. The first cohort of B.A./M.D. scholars will apply this fall and matriculate in the fall of 2017.

Already offered at a few dozen U.S. medical schools, such pipeline programs enable students to gain the competency and confidence they need to thrive during their medical training and careers.

Students embarking on the University’s B.A./M.D. path will receive close mentoring and support from both CLA and Medical School faculty. B.A./M.D. scholars also will receive support from each other, as this program follows a cohort model with up to 10 students each fall. Students accepted into the program will need to meet rigorous standards and achieve certain milestones while maintaining good GPAs and earning competitive MCAT scores.

Interested students should follow the U’s freshman application deadlines. Eligible premed students will be invited to apply and interview with Medical School admissions staff.

Obtaining philanthropic funding for this program is a Medical School priority. To learn how you can support this program, please contact Holly Gulden at hmgulden@umn.edu or 612-625-8758.
Global Outreach  |  Patricia Walker, M.D.

LOCATION: Myanmar (Burma), Southeast Asia  MISSION: Reducing health disparities, specifically for globally mobile populations

Cultural immersion

BORN IN TAIWAN and raised in Thailand until she was 11 years old, Patricia Walker, M.D., has always been immersed in many cultures. Today she’s an internationally recognized advocate for better refugee and immigrant health care and a committed ambassador for cultural humility among care providers.

With a belief that “global is local” in health care, Walker has focused on training the next generation of physicians in tropical and travel medicine. She is a professor of medicine and associate program director for the University of Minnesota Medical School’s Global Health Pathway, a three-year residency track that recently celebrated its 100th graduate, and department director at HealthPartners Travel and Tropical Medicine Center in St. Paul. She also spends up to four weeks per year abroad, teaching tropical medicine in Thailand and Cambodia.

Reducing health disparities for refugees and immigrants requires knowledge in clinical tropical and travel medicine, she says, but it also requires an open mind. Walker reflects on her work across cultures in the introduction she wrote for the book *My Heart It Is Delicious: Setting the Course for Cross-Cultural Health Care* by Biloine Whiting Young:

> Over the years I have recognized personal core values that have helped me be clear in my purpose and passionate in my advocacy. Those core values include global health equity, respect, trustworthiness, cultural humility, and compassion. ...
Ultimately, however, it is through the stories of our patients’ lives — lives that we are privileged to hold in our hands and hearts for a few moments, in an examination room or across a makeshift wooden table at a refugee camp clinic — that we may come closest to reaching across the cultural chasm to heal those who are suffering.

Walker, a photographer by hobby, took this shot on a trip to initiate a collaborative agreement with colleagues in Myanmar.

WEB EXTRA
View more of Walker’s photos at z.umn.edu/walkerphotos.
THE CANCER MOONSHOT MISSION

HERE'S WHY THE UNIVERSITY NEEDS PARTNERSHIPS WITH PRIVATE INDUSTRY — AND VICE VERSA
hopeful optimism of a “moonshot”? Heck, everybody knows the moonshot was a spectacular success, a giant leap for mankind.

Vice President Joe Biden was tapped to lead this Cancer Moonshot and, in an address to researchers around the country this past July, said, “We’re on the cusp of great change.” It’s possible, he continued, that we can indeed forge ahead and make 10 years of progress in the next five.

But how exactly will that happen? For University of Minnesota researchers, one important part of the answer is continuing to make new and stronger partnerships with private biotechnology companies to deliver breakthrough cancer therapies to patients faster. That, after all, is what drives the work of the Masonic Cancer Center’s scientists.

Different roles

“Many people assume that the kind of fundamental research that happens in places like the University of Minnesota should translate immediately into new cancer drugs,” says Masonic Cancer Center member Reuben Harris, Ph.D., a professor in the Department of Biochemistry, Molecular Biology, and Biophysics. “But it’s a very long road from a fundamental discovery in the lab to delivering something measurable to the clinic—usually five to 10 years.”

Harris, a Howard Hughes Medical Institute Investigator and holder of the Margaret Harvey Schering Land Grant Chair for Cancer Research, spends his days focused on “moonshot” research. He recently identified a predominant cause of cancer-producing mutations within the human body. Discovering this source of mutations—enzymes known as APOBECs—was a leap forward for Harris, who together with Masonic Cancer Center colleague Daniel Harki, Ph.D., and entrepreneur John Santini, Ph.D., has started a private company called ApoGen Biotechnologies Inc. They envision developing a cancer therapy that will inhibit the mutations caused by APOBECs in tumors.

Keep in mind that while scientists like Harris oversee sizable research labs, they’re also training the next generation of scientists in the classroom, writing scientific papers, presenting their findings at conferences around the world, writing grant requests, and doing service work. That makes having an outside company with dedicated nonacademic personnel necessary for translating a fundamental discovery to a new therapy.
Basic discoveries made in labs like mine can identify pathways to therapies, which private companies then end up producing. Then, the company often gives the therapies they develop back to scientists to test in new ways and in new situations. It’s a back-and-forth process that really works. – David Largaespada, Ph.D.

A shared commitment
“Public/private partnerships are absolutely critical to developing cancer therapies,” agrees David Largaespada, Ph.D., the Masonic Cancer Center’s associate director for basic sciences and a professor in the departments of Pediatrics and Genetics, Cell Biology, and Development, who works to identify cancer-causing genes.

“The relationship goes both ways: basic discoveries made in labs like mine can identify pathways to therapies, which private companies then end up producing,” he continues. “Then, the company often gives the molecules—the therapies—they develop back to scientists like me to test in new ways and in new situations. It’s a back-and-forth process that really works.”

It works because developing compounds for use as treatments in humans is complex and expensive, something universities are rarely set up to do alone.

And once private industry has developed a drug that’s ready to test, it needs access to patients, and it needs physicians with the expertise to set up and run clinical studies successfully.

Largaespada has cofounded three private companies: Discovery Genetics, which focused on developing gene therapies and was recently purchased by another company; NeoClone, which makes antibodies; and B-MoGen Biotechnologies, a gene-editing start-up. He is also a scientific adviser for Recombinetics, a St. Paul company focused on gene editing in food animals.

“Spinning out our discoveries from the lab into private companies is another way we can take what we’ve learned and get it into the marketplace where it can help people,” says Largaespada, who holds the Hedberg Family/Children's Cancer Research Fund Chair for Brain Tumor Research.

Commercializing discoveries
The National Cancer Institute has long promoted these public/private partnerships, and the University’s Office for Technology Commercialization exists to help move innovative lab discoveries into the public realm.

Jeffrey Miller, M.D., deputy director of the Masonic Cancer Center and holder of the Roger L. and Lynn C. Headrick Family Chair in Cancer Therapeutics, knows firsthand how the process works. He’s currently involved with two private companies that are developing cancer treatments based on his research.

“These types of partnerships involve two key components,” Miller explains. “First, the company agrees to further research and develop the technology they’re licensing into a product that can be commercialized. And, second, they agree to fund human clinical trials, which can be enormously expensive.”

Miller’s large research lab focuses on the potential of natural killer (NK) cells, which are important mediators of the body’s natural anticancer immune response. He and his team have discovered a specific type of NK cell, called an adaptive NK cell, that kills cancer more effectively than conventional NK cells. Miller’s
team has also learned how to arm those adaptive NK cells, aim them at cancer cells, and keep the NK cells alive long enough to destroy the cancer cells.

Last year, Fate Therapeutics, a biopharmaceutical company focused on developing immunotherapies for cancer, and the University entered into an agreement to take Miller’s NK cell discoveries to the next level. They hope to begin clinical trials with a new cancer immunotherapy in the first quarter of 2017, Miller says.

This year, Miller and Masonic Cancer Center colleague Daniel Vallera, Ph.D., saw their research on so-called TriKE—Trispecific Killer Engager—technology licensed by Oxis Biotech, a company that develops cancer drugs. The Oxis cancer therapy based on Miller and Vallera’s work is also expected to start clinical trials for acute leukemia patients in the first quarter of 2017, Miller says.

“These licensing agreements are absolutely essential to progress,” says Miller, “because in addition to funding the clinical trials, they fund the drug invention and help fund further research for product improvement. Basic research will only take us so far.”

The urgency of now
President John F. Kennedy’s original moonshot—land a man on the moon by the end of the 1960s—was arguably less complicated than the Cancer Moonshot; after all, scientists don’t have to cure just one cancer, they have to cure 200 known types of cancer. Every one may require a different “cure.”

University researchers say Cancer Moonshot buzz is already growing, and they’re eagerly waiting to hear more about what it will entail: More grant funding? Heightened awareness? A streamlined drug approval process?

As Miller says, science is advancing rapidly; anything that helps break down barriers and accelerate the process will be welcomed by scientists.

“I’ve been doing this work for 25 years,” he says, “but in the past five, I’ve seen the area of cancer immunotherapy absolutely explode.
A new perspective

NAME
Ashley Gettinger

AGE
17

TREATMENT
Total pancreatectomy with islet autotransplant for chronic pancreatitis

Ashley
What is it like to have a severely ill child? Or a chronically ill child? A terminally ill child?

Through a project called “Perspectives: A Visual Journey of Patients and Families from University of Minnesota Masonic Children’s Hospital,” Twin Cities photographer Jim Bovin invited families to document their hospital stays through photography and show others what they experience.

With a donation from the Margaret Hagen Smaby Fund for Innovation in Arts and Healing, Bovin provided cameras and photography training last year to six families with children experiencing a severe or chronic illness.

“I said to the parents, ‘There are going to be some days you don’t feel like talking. Pick up the camera,’” Bovin recalls.

And they did. Together the families took 7,151 photos. They took photos in the operating room, during painful procedures, and while simply passing time in a hospital room. They also took joyful selfies.

Bovin and the families worked with the University of Minnesota Center for Spirituality and Healing as well as University of Minnesota Masonic Children’s Hospital’s Child-Family Life Services and Integrative Health and Wellbeing Program to make the project happen.

It was so well received that Bovin is paving the way for a second—and third—round of patients and families to take part in it. “We want everybody to have a chance with this,” he says.

By Nicole Endres, managing editor of the Medical Bulletin
“There are going to be some days you don’t feel like talking. Pick up the camera.”
NAME
Griffin Dahmen

AGE
8

TREATMENT
Chemotherapy and surgery for Ewing sarcoma
The families took more than 7,000 photos – in the operating room, during painful procedures, and while simply passing time in a hospital room.
NAME
Anton Ezekiel Delgado

TREATMENT
Stem cell transplant for epidermolysis bullosa


Though Anton’s transplant was considered a success, he died during his recovery of intussusception, which is not a complication of epidermolysis bullosa or transplant.

“We are so thankful we got to be a part of this project and so thankful for the priceless photos we now have,” says Anton’s mother, Vanessa Delgado.
NAME
Grace Abera

AGE
1

TREATMENT
Chemotherapy for acute myeloid leukemia
JIM BOVIN’S PERSPECTIVE

Bovin, a Bloomington-based freelance photographer, does frequent work for University of Minnesota Masonic Children’s Hospital. Through this volunteer project, he witnessed some of these families’ most vulnerable moments — and was continually impressed by their commitment to keep shooting through them. “It was really fulfilling,” he says.
EVEN IN THE 1960s, Minnesotans foresaw a shortage of physicians in rural areas. So when the 1969 state Legislature made an appropriation to establish “a separate basic sciences program as part of an additional medical curriculum,” the University of Minnesota Medical School, Duluth campus was founded and has since focused on fulfilling the needs of rural Minnesota and Native American communities.

The Duluth campus welcomed its first class of 24 students — which included two Native Americans, a set of identical twins, and a nun — to school on September 20, 1972. Twenty-three of those students graduated with the Medical School’s Class of 1976.

Forty years later, the Duluth campus’ mission remains the same, and it has put up some impressive numbers.

Statistics provided by James Boulger, Ph.D., director of alumni relations for the University of Minnesota Medical School, Duluth campus, unless otherwise noted

*Source: Association of American Medical Colleges, “Diversity in Medical Education: Facts and Figures 2008”
Percent of all Medical School, Duluth campus graduates entering family medicine since 1976, compared with 11.2 percent nationally in the same time frame.

67
Percent of Duluth graduates selecting a primary care specialty (including family medicine, pediatrics, or internal medicine), compared with less than 39 percent nationally.

47
Percent of Medical School, Duluth campus trainees who serve communities with populations smaller than 25,000.

62
Percent of Medical School, Duluth campus alumni who serve communities smaller than 50,000.

110
Native American physicians who started in Duluth who have graduated from the University of Minnesota Medical School.

8
American Indian physicians in the country before the Medical School, Duluth campus opened in 1972*.

2
National ranking by number of American Indian graduates.
PATRICIA PACHECO WAS SURPRISED that her infant son, Thomas, didn’t seem to notice her. “All the books I had read said you should be staring lovingly into your infant’s eyes and he should look at you,” says Pacheco. “Well, he never looked at me. He was my first son, so I really didn’t have a concept of what was normal and what wasn’t. I would try to look at him and engage him, and he just never looked at me.”

And, unlike most other kids, Thomas was content to sit by himself with a single toy. “I just thought I had a really good baby,” says Pacheco. By age 1, Thomas wasn’t saying any words.

Friends assured Pacheco that boys develop slowly. Even her doctor suggested she wait for a speech evaluation. When Pacheco did schedule a full evaluation at 22 months, Thomas was found to have global developmental delays that fit on the autism spectrum.

The diagnosis opened the gate to insurance and intervention to help Thomas advance physically and socially. After a year, he was speaking in four- to five-word phrases, and his daily “meltdowns” of frustration abated.

Says Pacheco of the treatment, “We wouldn’t have the son we have today without it.”

The Pachecos’ experience underscores the importance of early diagnosis of the conditions known as autism spectrum disorder. The average age of children diagnosed with autism ranges from 4 to 5 years. That represents more than two years of missed opportunity — because early treatment can pay big dividends.

“We know from intervention studies that the earlier you intervene, the better the outcome,” says Jason Wolff, Ph.D., an assistant professor in educational psychology at the University of Minnesota. “If we can identify presymptomatic markers of children who are at the highest risk, we could do more preventive interventions so that these children, hopefully, never fall behind, or at least have the maximum chance to gain the skills they’ll need to be successful.”

A spectrum of expertise

From large prevalence studies to brain imaging, the University is investigating the best ways to serve children who have autism spectrum disorder

BY GREG BREINING
We know that the earlier you intervene, the better the outcome. If we can identify presymptomatic markers of children who are at the highest risk, we could do more preventive interventions.

– Jason Wolff, Ph.D.

Wolff and other University of Minnesota researchers are trying to better understand the causes of autism spectrum disorder — to diagnose it at earlier stages when treatment is more effective and to anticipate needs for therapy and support in the larger community.

Their work is contributing to a national effort to understand this complex array of developmental disorders — and establishing the University as a trusted research resource.

“We are relatively new in our ability to do this level of work,” says Suma Jacob, M.D., Ph.D., a physician-scientist in the Medical School’s departments of Psychiatry and Pediatrics, who was recruited four years ago. “I chose to come to Minnesota ... because I saw Minnesota had certain strengths. It has a good education system, good medical care, it’s very community focused. I think it can become a leading center in autism nationally. The research can make differences in individuals’ lives.”

Igniting a broad search for answers

Autism spectrum disorder includes a range of neurodevelopmental disorders that appear in early childhood, mostly among boys. Symptoms and levels of disability vary widely. Repetitive actions and limited interests are common. Social interaction and communication can be particularly difficult. The Centers for Disease Control and Prevention (CDC) estimates that 1 in 68 children has some form of autism.

Scientists understand that genetics play a strong role. Studies of identical twins show that if one twin has autism spectrum disorder, the other twin has a high probability of having it, too. Finding the responsible genes would help
scientists understand the cause. It would also allow very early diagnosis. But identifying those genes has been tough.

“Because it’s very heterogeneous — it’s a broad spectrum — there is no single gene or single cause,” Jacob says. “There are over 100 genes probably, and that has led to the challenge in finding [answers].”

To identify those genes and more fully understand who will show signs of autism spectrum disorder and why, scientists will have to study tens of thousands of patients. And that’s where SPARK comes in.

SPARK — which stands for Simons Foundation Powering Autism Research for Knowledge — is a nationwide collaborative study that will include 50,000 individuals with autism spectrum disorder and their families. Funded by the Simons Foundation, the study will collect personal information and DNA from saliva and mouth cells for genetic analysis. Recruiting such a large cohort is expected to take three years.

The University of Minnesota is one of more than 20 U.S. medical schools and research centers that launched the effort this spring. Jacob is the lead investigator for the University, which will be a regional hub for SPARK.

“SPARK is a nationwide collaborative study that will include 50,000 individuals with autism spectrum disorder and their families. It is the largest autism project ever planned.

“We’ve learned that we need large numbers in order to tease out common causes within subgroups of autism. You can’t do that as one institution. You really need to join forces.”

— Suma Jacob, M.D., Ph.D.
The study employs magnetic resonance imaging (MRI) scans to detect physiological differences between typically developing brains and the brains of children who have autism spectrum disorder. Pacheco brought young Michael in for a developmental assessment, an eye-tracking test, and MRI scan of his brain while he was sleeping.

First, Wolff and Elison use MRI to examine the structure of the brain itself. Second, they use a type of MRI that’s sensitive to water movement in tissues, called diffusion tensor imaging, to show connections linking various regions of the brain. Says Wolff, “We’re looking at the structure of the brain’s wiring.”

Finally, a third type of MRI, functional MRI, detects brain activity patterns related to blood oxygen, being that cerebral blood flow is tied to neuron activity. “We’re interested in which regions of the brain fire together while the child is resting,” says Wolff. “We can use this to understand more about functional development.”

The upshot is that Wolff and colleagues are detecting objective differences in the brains of children who have autism spectrum disorders as early as 6 months of age.

“With our best behavioral tools, we can feasibly diagnose a child around 18 months or 2 years,” says Wolff.

Earlier detection can make a big difference for families, says Patricia Pacheco. “I think it’s just a great program because we have been able to track Michael’s progress from just 3 months old to know that so far he seems to be neurotypical.” Michael got another scan at 6 months and will go back at years 1 and 2. “They give us information as we go,” she says.

Elison, a McKnight Land Grant Professor, also was named a coinvestigator for the new Baby Connectome Project, a $4 million NIH effort focused on imaging developing brains from infancy through early childhood. He will lead the effort at the U with Kamil Ugurbil, Ph.D., director of the U’s world-renowned Center for Magnetic Resonance Research.
**Prevalence data lets us plan for services in a much better way.**  
– Amy Hewitt, Ph.D.

**The need to dig deeper**

Last year the University joined the CDC-funded Autism and Developmental Disabilities Monitoring (ADDM) network, a nationwide initiative to estimate how many children with autism spectrum disorder live in various U.S. communities.

University researchers were tapped to contribute to the ADDM network after a 2013 report done in conjunction with the Minnesota Department of Health revealed that Somali and white children ages 7 to 9 living in Minneapolis were about equally likely to have autism spectrum disorder—but the Somali kids were more likely to also have an intellectual disability.

“‘The honest answer is we don’t know why,’” says lead author Amy Hewitt, Ph.D., director of the University’s Research and Training Center on Community Living. “‘It’s the big question that came out of our Somali prevalence study. What it tells us is we just need to dig deeper.’

Cultural factors could certainly be at play, Hewitt explains. Because autism is a spectrum of disorders, it would make sense that Somali children would fall along the entire spectrum and not just on the severe end, she says. “So one thought is that we are missing those kids whose symptoms are not as significant.”

Hewitt’s group is also building on its earlier study to determine the prevalence of autism in Somali and Hmong communities throughout Hennepin and Ramsey counties. The CDC is funding the research as part of the ADDM network, and the University’s findings will become part of the nationwide database.

“What prevalence data does for us is let us plan for services in a much better way,” says Hewitt. “[In Minnesota], most kids aren’t diagnosed until the age of 5. Well, we can accurately diagnose autism in kids at 2.”

That gap, she says, spans critical years for getting intensive services to those children.

“The ADDM network is there not just to count and report the number of kids,” says Hewitt. “It’s there to provide data and trends that help us to improve services and support to kids.”

Greg Breining is a journalist and author based in St. Paul.

Learn more about participating in the SPARK study at sparkforautism.org/uminnesota, or about participating in the Infant Brain Imaging Study at ibis-network.org.

Amy Hewitt, Ph.D., is investigating why Somali kids diagnosed with autism spectrum disorder were more likely than white kids also to have been diagnosed with an intellectual disability.
Alumni Spotlight | Steven Miles, M.D.

A career built on compassion

IN 1999, STEVEN MILES, M.D., decided to run for the U.S. Senate. His central concern? Affordable health care. Too many people, as he saw it, were forgoing critical medical care because they couldn’t afford it. So the University of Minnesota professor and physician entered the race as a Democrat and began touring the state to solicit votes.

Miles never made it to Washington, but he fondly recalls his time on the campaign trail. “I was struck by the incredible intimacy of campaigning,” he says. “You have extraordinary conversations with people. I learned so much by listening.”

Friends and colleagues say that Miles, who will retire from the U faculty at the end of the academic year, has always been a good listener. He rarely interrupts. He asks incisive questions. And above all, he is empathetic. As a teacher, caregiver, researcher, and mentor, Miles has always led with compassion, his fans say.

COURAGEOUS LEADER

Miles earned his medical degree from the University’s Medical School in 1976 and has worked at the U for 35 years. A longtime professor in the Division of General Internal Medicine, he also holds the Maas Family Endowed Chair in Bioethics and serves as an affiliate faculty member for the Law School’s concentration in health law and bioethics.

He has served as medical director of the Minneapolis-based American Refugee Committee and has written four books, including one on the Hippocratic Oath and another about the role of doctors involved with torture practices. At last count, Miles had visited 82 countries — and had worked with refugees in Asia, Africa, and Europe.

“Steve’s work makes a genuine difference in people’s lives,” says Debra DeBruin, Ph.D., an associate professor with the U’s Center for Bioethics. “He provides leadership on very controversial issues that most bioethicists don’t address — for example, the complicity of health professionals in torture, ending gun violence, and testing untested rape kits. He’s not at all deterred by the heat he takes as a result of his positions or research. His work displays a lot of courage.”

Sitting on the patio outside his Minneapolis home on a recent morning, Miles spoke quietly as he tallied the accomplishments that make him most proud. He helped develop the Do Not Resuscitate order and an internationally used protocol for treating tuberculosis in refugee camps. He successfully pushed for getting rid of restraints in nursing homes and sat on the committee that helped design MinnesotaCare.

What accounts for his success? “The truth is, I’m a lousy networker and not very sociable,” Miles says with a smile. “But I know how to collate critical bits of information and then distill a simple, clear policy design from them. Simplicity is key to the solutions I’ve helped develop.”

RESPECTED MENTOR

Miles’ commitment to changing the world one issue at a time has inspired countless students. Arthurine Zakama, who met Miles when she was in high school, says she decided to go into medicine because Miles encouraged her to reach for her dreams. “He’s an amazing mentor,” Zakama recalls. “He always took the time to talk to me, write letters of recommendation, and offer advice.”

Allison Whelan, a graduate of the U’s M.A./J.D. program in bioethics, echoes such praise. “Dr. Miles is, without a doubt, one of the best professors and mentors that I have had in my academic career,” says Whelan. “His door was always open. He went beyond the call of duty to help me academically, professionally, and personally.”

Miles says he tries to treat his students with respect. “I want them to mature to their full potential, beyond any class where we happen to meet,” he says. He attempts to answer every student email, he says, and corresponds with many former students.

His students find him to be open and real: “Years ago, shortly after he was diagnosed as bipolar, he disclosed his struggle with mental illness to one of his classes. “I said, ‘You can get help and have a successful career in medicine, as I have,’” he recalls. “‘But you will have to educate your classmates.’ You could’ve heard a pin drop.”

HUMANIST

Much has changed in medicine over the course of 35 years, notes Miles. “Technology now makes it possible to do literature research at a level we’d never dreamed of before,” he says. But he worries that technology can become a barrier between physicians and patients. “The electronic chart has improved information flow and given us access to tremendous amounts of data. But it has also prompted young doctors to stand behind a screen rather than risk relating with their patients and their families.”

Steve’s work makes a genuine difference in people’s lives. He provides leadership on very controversial issues that most bioethicists don’t address. He’s not at all deterred by the heat he takes as a result of his positions or research. His work displays a lot of courage.

– Debra DeBruin, Ph.D.
ALUMNI HOSTS NEEDED

Interviewing for a residency placement can be a nerve-racking process. The Medical Alumni Society is seeking alumni who live outside of Minnesota to host medical students as they travel for residency interviews. Besides offering a friendly face and camaraderie, hosts help ease the financial burden of travel for students.

To sign up, visit z.umn.edu/alumnihost, or contact Katrina Roth at 612-625-0336 for more information.

The truth is, I’m a lousy networker and not very sociable. But I know how to collate critical bits of information and then distill a simple, clear policy design from them. Simplicity is key to the solutions I’ve helped develop.

Steven Miles, M.D.

WEB EXTRA

Hear Miles discuss health disparities and possible ways to address them at z.umn.edu/miles.

To nurture their empathetic sides, Miles encourages his students and colleagues to read novels and listen to music. Listening to jazz and reading authors like Jane Austen have helped make him a better person, he says, and thus a better physician. Not surprisingly, he plans to spend more time in retirement engaged in both activities, as well as gardening, cooking, and enjoying his grandchildren with his wife of 35 years, Joline Gitis.

Leaving the U will be bittersweet for Miles, who says he’ll miss the students and patients. But he hasn’t had second thoughts about moving on. “There’s no point in dying on the job,” he jokes. “That would be a waste of a perfectly good retirement.”

By Joel Hoekstra, a Minneapolis freelance writer and editor
Lessons from the scrum

IN HER MEDICAL SCHOOL APPLICATION, Sarah Roe could have written about being the only girl on the football teams she played on in Antioch, California. She could have described her route from the public schools of that working-class town to Stanford University. Or she might have discussed how her Mexican/Native American heritage shaped her. Instead, she wrote about rugby.

She played the sport as an undergraduate and found it not only made her strong, it taught her something important: “In rugby, you go into a play full force and get buried, but the play is going on without you, and you have to catch up to help the team,” she says.

At Stanford, the high school valedictorian had struggled. “I was putting in over 100 percent effort and still not achieving the results,” Roe says. Although she learned from the experience, by the time she graduated, she questioned her goal of becoming a physician.

Moreover, she felt wanted. “They were so friendly and happy to have me there,” she says. “They knew my name.” Roe had visited other schools where that wasn’t the case. She realized the school in the northern state so far from home was actually a good fit, and she made it her No. 1 pick.

ROLE MODEL

One of the first people Roe met when she arrived in Duluth in 2014 was Mary Owen, M.D., director of the Center of American Indian Minority Health (CAIMH). Owen was teaching a course designed to give students feeling shaky about their academic skills a kick start.

Owen, who is from Alaska, was aware that students like Roe, who come from different parts of the country or who are members of a minority group, have a lot to deal with when they arrive in medical school. “Just being from the West Coast, Minnesota seems foreign,” she points out. “And Native students are from a group of people who have been stereotyped and misunderstood for forever.” Yet Roe adjusted. “It didn’t take long before she had that confidence and was excelling in school,” Owen says.

Roe says she simply buckled down and worked, and asked for help when she needed it. “There’s so much support and encouragement from faculty, especially from the Native American program,” she says. And she loved what she was learning. It all had purpose.

“Two years in Duluth were way beyond what I expected, in a good way,” Roe says. She took advantage of opportunities such as working in the lab of assistant professor Andrew Skildum, Ph.D., who is studying whether an enzyme known to play a role in diabetes, PDK4, also plays a role in breast cancer. Roe developed a protocol that the lab is still using.

Skildum was impressed with Roe’s interest in the work. “She probably won’t be doing Western blot for the rest of her life, but she wanted to learn that technique so she could convey to patients the importance of basic science research,” he says. And Roe made an impression on the younger women working beside her, one of whom is now applying to medical school.

Owen says Roe was a role model for Native American teens as well. Roe, who worked with Native teens through CAIMH’s Health Science Academy one summer, says she wanted to communicate a message: “You can be Native and be in medical school.”

FORWARD MOMENTUM

Roe’s hard work in Duluth was acknowledged last year when she was awarded Edwin Haller and Eva Victoria Olson, RN, Memorial scholarships. “It’s nice to be recognized,” she says. And with mounting debt, she’s especially appreciative: “Every bit helps to lower the financial burden that all of us face.”

With the confidence she gained in Duluth, Roe says she’s excited to be in the Twin Cities doing her clinical rotations. And she’s still applying the lessons she learned from rugby, pushing herself to share her clinical opinions and not fretting if she’s wrong. As she says, “You can’t think about your mistakes. You have to keep going. You have to be better for the next play.”

By Carmen Peota, a freelance writer and editor who lives in Minneapolis

To support Medical School scholarships or to learn more, visit give.umn.edu/p/scholarships or contact Dan Brasch at dbrasch@umn.edu or 612-624-6453.
Third-year medical student Sarah Roe’s rugby days taught her not to fixate on her mistakes but to make herself better for what’s next.

Quite a celebration

Hundreds of University of Minnesota Medical School alumni and their guests came back to campus in September to reunite with their classmates at the annual Alumni Celebration, hosted by the Medical Alumni Society.

While all alumni were welcome to attend, the classes of 2011, 2006, 1996, 1991, 1986, 1976, 1966, 1961, and 1956 marked the occasion with class receptions. Other highlights included tours of the U’s Visible Heart Lab and SimPORTAL, research presentations by some of the U’s most innovative faculty members, and a Gopher football win over the Colorado State Rams.

WEB EXTRA

See more photos from Alumni Celebration events at give.umn.edu/p/alumni-celebration.
Medical Alumni Society honors five distinguished graduates

FIVE UNIVERSITY of Minnesota Medical School alumni were honored for their contributions to the medical profession at the Medical School Alumni Awards Banquet on September 22 at the McNamara Alumni Center on the University of Minnesota’s East Bank campus. The University of Minnesota Medical Alumni Society has presented these alumni with the following awards:

The Harold S. Diehl Award is granted to individuals who have made outstanding contributions to the University of Minnesota Medical School, the University as a whole, and the community. It was established in honor of the Medical School’s fifth dean, Harold Sheely Diehl, M.D.

WESLEY J. MILLER, M.D.

With spirited intelligence and a relentless pursuit of excellence, Miller has been an innovative leader in medical education at the University for four decades. A member of the residency class of 1977, Miller has shared his joy of learning and expertise in evidence-based medicine with students and peers alike. He has received 12 distinguished teaching awards and has made time to partake in daily educational opportunities, even during the seven years he served the Medical School as Department of Medicine chair. Miller’s colleagues know him as a skillful, compassionate, hands-on teacher.

The Distinguished Alumni Award recognizes University of Minnesota Medical School alumni who have made outstanding contributions to their communities – at the local, regional, or national level – through medical practice, teaching, research, or other humanitarian activities.

MARCI L. BOWERS, M.D.

A member of the Medical School Class of 1986, Bowers is a renowned transgender surgeon and a humanitarian committed to delivering care for marginalized and underserved communities. Bowers helped to establish Mount Sinai Health System’s Center for Transgender Medicine and Surgery, one of the first of its kind in the nation, and helped to re-establish the transgender surgery program at Sheba Medical Center at Tel Hashomer in Tel Aviv. She also has provided reconstructive surgery to hundreds of women who have experienced genital mutilation throughout the world. With warmth and skill, Bowers has brought professionalism to the often stigmatized field of transgender health care.

STEVEN E. KOOP, M.D.

Koop has dedicated his career to children and families affected by pediatric musculoskeletal disabilities. A member of the Medical School Class of 1979, Koop founded Gillette Children’s Specialty Healthcare’s motion and gait analysis lab, helping Gillette become a world leader in caring for children and young adults with cerebral palsy and other childhood-onset disabilities. He has shared his expertise with Ecuadorian care providers who treat children with complex medical conditions. Also a deacon in the Catholic Church, Koop is known as a conscientious, intelligent, kind leader by example.

PENNY WHEELER, M.D.

Often touting the fact that she is a “triple Gopher” – having received her undergraduate and medical degrees and an executive program certificate at the University – Wheeler has been a champion for quality care and patient safety throughout her career. Now, as president and CEO of Allina Health, she is passionate about putting patients first while using data to determine their best care. She envisioned and implemented service lines that knit together the continuum of care, decrease waste, and enhance quality. Wheeler, a 1984 graduate of the Medical School, is known for her disarming yet relentless influence.
The Early Distinguished Career Alumni Award is given to a physician for exceptional accomplishments within 15 years of graduating from or completing his or her residency at the University of Minnesota Medical School.

JOEL V. OBERSTAR, M.D.
A member of the Medical School Class of 2001, Oberstar is an unwavering advocate for children struggling with mental illness. He is regarded as one of the most highly skilled child psychiatrists in the community and is a scholar in the area of evidence-based child psychotherapy services. In his current role as CEO of PrairieCare and PrairieCare Medical Group, he helps to create policies supporting and developing mental health services for youth, with an overarching goal of expanding these services for children and adolescents in Minnesota. Colleagues say Oberstar is considerate, kind, and generous with his time.

The loss of a health care innovator

GLEN NELSON, M.D., a University of Minnesota Medical School alumnus who made substantial contributions in health care delivery and the medical device industry throughout his career, died May 14 at age 79. Nelson tirelessly sought to improve health care outcomes, whether for one patient in his care or the hundreds of thousands who benefit from medical innovation.

After earning his medical degree in 1963, Nelson completed his general surgery training at Hennepin County General Hospital (now Hennepin County Medical Center) in Minneapolis. He practiced surgery for 17 years, including 11 years as chairman, president, and chief executive officer of the Park Nicollet Medical Center. He was also a clinical professor of surgery at the University of Minnesota. In 1988, Nelson became vice chairman of Medtronic Inc., serving in that role until his retirement in 2002. Asked to describe the transition from doctor of medicine to business executive, he stated, “As a surgeon, you save one life at a time, but with medical devices, you know you are saving so many more.”

Nelson helped pioneer and lead Medtronic innovations in heart rhythm therapies, from pacemakers to defibrillators, heart valves, and stents. After retiring from Medtronic, he founded GDN Holdings, focusing his expertise on health care start-up ventures. His reputation as a health care innovator and forward thinker was evidenced by his abundant board service, which included advising multiple community organizations, academic institutions, nonprofit organizations, and corporations over the years.

Scott Ward, chief executive officer of Cardiovascular Systems Inc., called Nelson “an extraordinary world leader in health care. He had boundless enthusiasm to improve the human condition. Whether it was improving the quality of life or saving lives, he knew about cardiac, brain, and spinal cord stimulation; orthopaedics; and cardiology. His interests spanned nearly all of medicine.”

Nelson, who received numerous awards for his achievements, was presented with the University of Minnesota Outstanding Achievement Award in 2008 and was named a 2013 Harold S. Diehl Award recipient by the Medical Alumni Society.

Nelson is survived by his wife, Marilyn Carlson Nelson; 3 children; 6 grandchildren; and 3 step-grandchildren.
In Memoriam

BRADLEY E. APPELBAUM, M.D., Class of 1959, Overland Park, Kan., died June 27 at age 82. Dr. Appelbaum worked as a federal advocate for maternal and child health for 37 years. He is survived by his wife, Elizabeth; 2 children; and 4 grandchildren.

RUSSELL BOEHLKE, M.D., Class of 1955, Fort Collins, Colo., died July 17 at age 88. An ophthalmologist, Dr. Boehlke introduced intraocular lens implantation to northern Colorado. He was preceded in death by 1 daughter. He is survived by his wife, Biddie; 2 children; 3 grandchildren; and 6 great-grandchildren.

LOUIS A. BUIE JR., M.D., Class of 1952, Edina, Minn., died May 11 at age 88. Dr. Buie served as chief of staff and chief of surgery at Fairview Hospital Downtown and Fairview Southdale Hospital. He is survived by his wife, Joann; 5 children; 7 grandchildren; and 1 great-grandchild.

LELAND R. CHRISTENSON, M.D., Class of 1957, Laporte, Minn., died June 19 at age 85. Dr. Christenson was a family practitioner, and later, an emergency physician and medical director for a nursing home. He was preceded in death by 1 daughter and 1 grandson. He is survived by his wife, Maylie; 5 children; 13 grandchildren; and 1 great-granddaughter.

JOSHUA A. CLARK, M.D., Class of 2002, formerly of La Crescent, Minn., died April 14 at age 45.

JAMES A. DONALDSON, M.D., Class of 1954, Redmond, Wash., died March 20 at age 86. Dr. Donaldson was a renowned ear surgeon and professor whose 1967 book is still the standard medical school text in its field. He is survived by his wife, Maylie; 5 children; 13 grandchildren; and 5 great-grandchildren.

JAMES P. DUDLEY Jr., M.D., Class of 1957, San Mateo, Calif., died June 5 at age 83. Dr. Dudley was an otolaryngologist in private practice until 1976, when he joined the faculty at University of California at Los Angeles School of Medicine, and eventually retired from Kaiser Permanente. He is survived by his wife, Ann; 3 children; and 5 grandchildren.

PER FREITAG, Ph.D., M.D., Class of 1973, Springfield, Ill., died Feb. 5 at age 73. Dr. Freitag was an orthopaedic surgeon who loved both the practice and teaching of medicine. He was preceded in death by his first wife, Carol. He is survived by his second wife, Lynn; 3 children; and 2 grandchildren.

ANTHONY C. GHOZL, M.D., Class of 1945, Fort Grafton, Mich., died July 12 at age 95. Dr. Gholz was a pediatrician in Port Huron, Mich., for more than 40 years. He was preceded in death by his wife, Heidi. He is survived by 3 sons, 9 grandchildren, and 8 great-grandchildren.

PAUL T. GRIMES, M.D., Class of 1954, Park Rapids, Minn., died July 13 at age 89. Dr. Grimes practiced medicine in Park Rapids for 34 years and served as the Hubbard County coroner for 4 years after retirement. He was preceded in death by his wife, Jean. He is survived by 5 children, 13 grandchildren, and 4 great-grandchildren.

ASHLEY T. HASTI, Class of 2017, Brooklyn Park, Minn., died June 2 at age 31. Ms. Hasti was planning to apply to residencies in psychiatry upon her graduation from the Medical School. She is survived by her father and sister.

WILLIAM G. HEEGAARD, M.D., Class of 1952, died Aug. 28 at age 89. Dr. Heegaard was a family practitioner in Alexandria, Minn., until his retirement, when he and his wife, Josie, traveled the world, providing health care to underserved communities. He was preceded in death by Josie. He is survived by 4 children and 10 grandchildren.

LEONG Y. W. HOM, Class of 1948, North Bend, Wash., died April 30 at age 93. Dr. Hom was a family practitioner for 43 years and a founding member of the Fergus Falls Medical Group, P.A. He was preceded in death by his wife, Syen. He is survived by 4 sons and several grandchildren.

ROBERT B. JACOBSON, M.D., Class of 1970, Eugene, Ore., died April 9 at age 71. Dr. Jacobson practiced obstetrics and gynecology in Eugene for 26 years. He is survived by his wife, Linda; 2 children; and 7 grandchildren.

DOUGLAS V. JEWSON, M.D., Class of 1966, Lake Carlos, Minn., died April 28 at age 75. Following military service as chief of medicine and cardiology at Irwin Army Hospital in Fort Riley, Kan., Dr. Jewson was in private practice until 2000. He is survived by his wife, Diane; 5 children; 10 grandchildren; and 2 great-grandchildren.

MORRIS R. KATKOV, M.D., Class of 1954, Apts, Calif., died June 9 at age 91. Dr. Katkov was in private practice for many years before becoming a staff physician/surgeon at the California Veterans Home in Yountville. He was preceded in death by his wife, Mary. He is survived by 4 children and 2 grandchildren.

GEORGE W. LUND, M.D., Class of 1946, Minneapolis, died April 24 at age 93. In 1951 Dr. Lund was a founder of the St. Louis Park Medical Center, which ultimately became the Park Nicollet Clinic. He was one of the first pediatric cardiologists in Minnesota and practiced at Minneapolis Children’s Hospital during its formative years. He was preceded in death by his wife, Jeanne. He is survived by 2 sons and 2 grandchildren.

RICHARD P. LYNCH, M.D., Class of 1957, St. Paul, Minn., died Feb. 21 at age 83. Dr. Lynch practiced pathology until his retirement in 1996. He is survived by his wife, Jean; 3 children; and 1 granddaughter.

TIMOTHY J. MEADE, M.D., Class of 1986, Golden Valley, Minn., died Sept. 3 at age 56. After working in Russia, Ukraine, and the Czech Republic, Dr. Meade founded Tiny Tim and Friends, a non-profit providing lifesaving treatment for HIV-positive children and pregnant women in Lusaka, Zambia. He is survived by one son, his parents, and 6 siblings.

GLEN NELSON, M.D. (see page 33).

PAUL S. PAULSON, M.D., Class of 1956, Spokane, Wash., died June 12 at age 87. Dr. Paulson was chief of radiology at Providence Hospital in Seattle for 25 years and also served as chief of staff. He was preceded in death by 1 daughter. He is survived by his wife, Denise; and 2 sons.

ARNOLD O. RHOLL, M.D., Class of 1948, St. Paul, Minn., died June 5 at age 90. Dr. Rholl was a general medical officer in the U.S. Navy for 5 years before completing his radiology residency and joining the staff at Swedish Hospital in Minneapolis. He is survived by his wife, Lois; 4 children; 9 grandchildren; and 4 great-grandchildren.

HOMER H. RUSS, M.D., Class of 1959, Green Cove Springs, Fla., died May 28 at age 82. Dr. Russ spent the first part of his medical career as a general practitioner in small Minnesota towns. In 1974 he completed a fellowship in therapeutic
radiology and spent the remainder of his career working as a radiation oncologist. He is survived by his wife, Carolyn; 3 daughters; 7 grandchildren; and 4 great-grandchildren.

**STEVEN A. SCHWENDEMAN, M.D.,** Class of 1978, Edmond, Okla., died Feb. 19 at age 63. Dr. Schwendeman was a family practitioner who became board certified in aerospace and occupational medicine and worked for the Federal Aviation Administration Civil Aerospace Medical Institute. He is survived by his wife, Becky; 1 son; and one grandchild.

**DIANE L. SORENSON, M.D.,** Class of 1982, Dubuque, Iowa, died June 7 at age 59. In 1986 Dr. Sorenson joined Dubuque Internal Medicine as its first female internist. She is survived by her husband, Allen Meurer; and 2 children.

**JOHN M. STREITZ Sr., M.D.,** Class of 1951, Duluth, Minn., died April 15 at age 90. Dr. Streitz practiced urology at St. Mary’s and St. Luke’s hospitals, serving as chief of staff at both. He also taught at the University of Minnesota Medical School, Duluth campus from 1972 until his retirement in 1992. He was preceded in death by his wife, Patricia. He is survived by 5 children and 10 grandchildren.

**JOHN M. STREITZ Jr., M.D.,** Class of 1958, Stanford, Calif., died Feb. 12 at age 82. Dr. Swenson was a nephrologist at Stanford Medical School when he performed the first kidney transplant on the West Coast. In 1989 he was appointed chief of staff at the Livermore VA Hospital. He is survived by his wife, Carol; 2 daughters; and 4 grandchildren.

**ROBERT S. SWENSON, M.D.,** Class of 1958, Moorhead, Minn., died June 28 at age 96. Dr. Covey began his medical practice in Mahnomen, Minn., serving as the county’s only physician. After completing an orthopaedic surgery fellowship at the Mayo Clinic, he practiced in Crookston and Moorhead. Dr. Covey established free clinics for Mexican-American migrants, volunteered at free clinics for children, and established health clinics for the homeless in Fargo and Moorhead. He received the Harold S. Diehl Award from the Medical Alumni Society in 1985 and in 1992 shared a McKnight Human Service Award with his wife, Grace, who preceded him in death. He is survived by 5 children, 11 grandchildren, and 9 great-grandchildren.

**KENNETH W. COVEY, M.D.,** Class of 1943, Moorhead, Minn., died Jan. 28 at age 96. Dr. Covey began his medical practice in Mahnomen, Minn., serving as the county’s only physician. After completing an orthopaedic surgery fellowship at the Mayo Clinic, he practiced in Crookston and Moorhead. Dr. Covey established free clinics for Mexican-American migrants, volunteered at free clinics for children, and established health clinics for the homeless in Fargo and Moorhead. He received the Harold S. Diehl Award from the Medical Alumni Society in 1985 and in 1992 shared a McKnight Human Service Award with his wife, Grace, who preceded him in death. He is survived by 5 children, 11 grandchildren, and 9 great-grandchildren.

**RICHARD A. DEWALL, M.D.,** Class of 1952, Appleton, Minn., died Aug. 15 at age 89. In 1955 Dr. DeWall co-created the first workable, portable bubble oxygenator, which quickly became the model used around the world for open-heart surgery. Dr. DeWall served as chair of the surgery department at Chicago’s Mount Sinai Hospital from 1962 to 1966, and then moved to Dayton, Ohio, where he began the open-heart surgery program at Kettering Hospital. Sensing a growing need for doctors in Dayton-area hospitals, he enlisted support for the creation of the School of Medicine at Wright State University. He also established the general surgery residency training program at Kettering, serving as its director from 1970 to 1976. A prolific inventor who paved the way for many medical innovations, Dr. DeWall will be remembered as a true visionary. He is survived by his wife, Diane; 3 daughters; and 7 grandchildren.

**JAMES G. WHITE, M.D.,** Class of 1955, Minneapolis, died July 8 at age 86. Dr. White spent more than 50 years working at the University of Minnesota, specializing in hematology research until his retirement in 2014 as a Regents Professor. Acknowledged widely as the top platelet doctor in the world, he pioneered the use of the electron microscope to study platelets and was responsible for major breakthroughs in the treatment of bleeding and clotting disorders. Dr. White received numerous awards throughout his life, including the Harold S. Diehl Award from the Medical Alumni Society in 2005 and the Thrombosis Research Society Lifetime Achievement Award in 2013. He was preceded in death by 2 sons. He is survived by his wife, Mary; 3 children; and 6 grandchildren.
At 50, CUHCC meets more needs than ever

The south Minneapolis clinic provides comprehensive team-based care for a richly diverse, primarily low-income patient population.

What does sensitive, patient-focused, culturally competent health care look like? Roli Dwivedi, M.D., medical director of the Community University Health Care Center (CUHCC), tells a story: “The other day, a medical student and I were seeing a Somali patient. She came in for pelvic pain and headache,” Dwivedi says. Conferring with Dwivedi outside the exam room, the student suggested certain tests to explain her symptoms.

But Dwivedi had sensed anxiety in the patient. “I went back into the room, and I started asking more questions. My sense was, she is trying to conceive and she is not able to. So I asked, ‘Are you trying to conceive?’ And she said, ‘Yes. I think it may be my mind that is causing these symptoms, because I am unable to get pregnant.’

“In Somali culture, being able to conceive is very important,” Dwivedi explains. And for Dwivedi, really seeing the patient had revealed clues that didn’t emerge initially. It’s the kind of interaction that can transcend language — and many languages are spoken at CUHCC.

The south Minneapolis clinic, celebrating its 50th birthday this year, serves a richly diverse, primarily low-income patient population. Its multi-disciplinary team includes staff interpreters who speak Hmong, Lao, Somali, Spanish, and Vietnamese. The staff is diverse, too, and largely bilingual.

Serving a Global Community

CUHCC has evolved a lot since its 1966 inception, when it began as a pilot project aimed at providing pediatric medical and dental care to the then-predominantly American Indian community in the Phillips neighborhood.

Today, CUHCC provides comprehensive team-based care — not just medical and dental, but also mental health services, pharmacy, victim advocacy, legal services, education, and now, care coordination — to nearly 11,000 patients from numerous countries, cultures, and faith traditions.

“Our patients have complex medical and psychosocial needs,” says Dwivedi. “We are committed to being present in their lives, even when they leave the clinic.”

When she joined CUHCC in 2009, there were no care coordinators on staff. Their addition has been hugely important, Dwivedi says. “The psychosocial care coordinator, for example, can go and assess the patient’s living situation. That helps a lot in figuring things out.” Patients feel more secure, she adds, knowing that they can reach out to an entire team.

CUHCC is one of the largest primary care teaching sites in Minnesota, providing work and educational opportunities for nearly 300 students and residents from medicine, dentistry, pharmacy, nursing, social work, and public health each year.

Fourth-year medical student and aspiring psychiatrist Kelly Setterholm describes her recent monthlong CUHCC rotation as transformative. “I learned a lot of the usual primary care stuff, like how to help patients manage chronic disease. But at CUHCC, you also learn so much more,” she says. “What are the intricacies of providing good patient care to a Somali patient versus a Hmong patient? Culturally appropriate care, trauma care — these are hard to grasp in the classroom. At CUHCC, it’s alive, it’s happening right in front of you.”
‘ACCESSING PATIENTS’ LIVES’
Setterholm spoke of one patient, a man whose physical health challenges were compounded by homelessness, depression, and substance abuse. In collaboration with his CUHCC psychiatrist, she and other medical staff were able to help him improve his emotional state.

“The people at CUHCC, they are positive, they are flexible, they are kind, they are willing to try new things. And they’re so good at accessing patients’ lives,” Setterholm says. “Not just the docs, but also the nurses, the nurse practitioners, the interpreters, the scheduling staff. It’s so important to have caring providers from all of these disciplines under one roof.”

Dwivedi believes “everything is in place” at CUHCC to deliver the best possible care to the community, but she hopes to expand the facility so the team can serve more patients, more efficiently. “We could meet more patients’ needs if we had a bigger structure. Otherwise, all the ingredients are here.”

And that makes Dwivedi excited to come to work every day. “I feel like I did another residency when I joined CUHCC. I think in the future, more providers will be interested in primary care if we can show them how this model works. I tell my patients, ‘I’m on your side, I want to walk with you so that you feel supported.’”

By Susan Maas, a freelance writer who lives in Minneapolis

What are the intricacies of providing good patient care to a Somali patient vs. a Hmong patient? Culturally appropriate care, trauma care — these are hard to grasp in the classroom. At CUHCC, it’s alive, it’s happening right in front of you.

– Kelly Setterholm, fourth-year medical student

**COORDINATED CARE FOR PEOPLE WITH DIABETES**

A $50,000 grant from the Medtronic Foundation is boosting CUHCC’s use of coordinated care to help people who have diabetes improve their health.

Strategies include:

- Assigning a care coordinator to each patient for up to a year.
- Developing a diabetes action plan for each patient.
- Connecting patients with pharmacy residents who will customize medication plans as needed.
- Providing support such as transportation assistance, interpretation, smoking cessation, legal services, and mental health case management.
- Helping patients to complete MNSure insurance applications and renewals.

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