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Medical Bulletin

Streamlining science

U institute puts focus on bench-to-bedside research



FALL 2011 Can a patient's own stem cells repair a damaged heart? □ Program helps Native American students find the path that's right for them □ Honored alumna puts business successes to work for good

About the Medical School

THE UNIVERSITY of Minnesota Medical School encourages collaborations that spur innovations — discoveries that advance biomedical knowledge, patient care, and educational programs. The Medical School now trains 986 medical students and more than 800 residents and fellows and is home to 1,600 faculty physicians and scientists.

About the Minnesota Medical Foundation

THE MINNESOTA Medical Foundation is a nonprofit organization that raises millions of dollars annually to help improve the quality of life for the people of Minnesota, the nation, and the world by supporting health-related research, education, and service at the University of Minnesota, including many Medical School initiatives.

Aaron L. Friedman, M.D.

Medical School Dean and
Vice President for Health Sciences

Becky Malkerson

President and CEO,
Minnesota Medical Foundation



UNIVERSITY OF MINNESOTA

Medical School



ON THE WEB

Visit www.mmf.umn.edu/bulletin to find web-only content with the online version of the *Medical Bulletin*.



Clinical and Translational Science Institute gives researchers a head start

Native American students get an introduction to the health professions

Global Health Course offers a hands-on lesson in crisis response

U looks back 100 years at its first independent teaching hospital

Discover more online.

Web extras produced by Robyn White, Ellie Lijewski, and Rebecca Wilson

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ON THE COVER: Illustration by Peter Grundy

Medical School News

Meet the University of Minnesota's 16th president

When Eric Kaler, Ph.D., took the reins as the University of Minnesota's new president on July 1, he dedicated his first 100 days on the job to listening and learning.

Kaler is in a familiar place — he earned his Ph.D. in chemical engineering at the University in 1982. Coming back to Minnesota from Stony Brook University in New York, where he served as provost and senior vice president for academic affairs and vice president for Brookhaven National Laboratory affairs, Kaler is settling into his new role. He's meeting with students, faculty, staff, and external partners to talk about what people love about the University and what could make it better.

What are your goals for the Medical School?

I am committed to excellence in everything the University of Minnesota does. And I know of no great research university without a great medical school, without great health sciences.

We must have a world-class medical school that is more highly ranked. It is critical to the University, to the health care system, and to the citizens of this state that we continue to produce the

next generation of high-quality health professionals.

One of my priorities is to return the Medical School to national prominence.

As in other areas of research and discovery, we have an exceptional history of innovation in the health sciences. That is why we must move again to the very top tier of excellence by pursuing investment in research and new technology and continuing to recruit and retain the best faculty members and students.

The interdisciplinary research focus of the Biomedical Discovery District is a spectacular example of the innovation necessary for breakthroughs, and of how partnership between the University, the state, and the private sector can ensure Minnesota is a leader in biomedical science.

This investment in the Medical School is critical, but resources are scarce. I am committed to exploring stronger partnerships with businesses, foundations, and private donors to help us support the research and clinical endeavors that are essential to our future success.



Karen and Eric Kaler, Ph.D.

What will be your role in building the Medical School's image and ranking nationally?

Frankly, University-wide and in the Medical School, I think we can do a much better job of telling the story of just how good we already are, about how outstanding our students are, and about the excellent work of our graduates.

I will be the biggest cheerleader for the Medical School, telling its story and promoting its work.

But I can't do it alone. I need your help. As I told alumni in my inaugural address in September, we need you. We need your input. We need your financial support. We need your energy. Please consider how you can best give back. I welcome all ideas. [MIB](#)

WEB EXTRA



Hear President Kaler share his vision for the University at www.mmf.umn.edu/mb/kaler.



IMAGE: COURTESY OF ARCHITECTURAL ALLIANCE/ZGF ARCHITECTS

U BREAKS GROUND ON A NEW CAMPUS LANDMARK

The University of Minnesota broke ground May 11 on a state-of-the-art research building—the “gateway” to the institution’s Biomedical Discovery District. When it’s complete in spring 2013, the Cancer and Cardiovascular Research Building will bring together top University investigators to discover the next wave of cancer and cardiovascular therapies. Cancer researchers housed in the new facility will study chemical biology with a focus on chemical carcinogens as a cause of cancer and build new models to find better cancer treatments, while heart researchers housed there plan to study heart regeneration and development, muscular dystrophy, congenital heart disease, and genomics.

See the construction in action at www.ahc.umn.edu/research/bdd/web-cam.

University of Minnesota hospitals rank among nation’s best

University of Minnesota Medical Center, Fairview and University of Minnesota Amplatz Children’s Hospital are again among an elite group of hospitals named the nation’s best by *U.S. News & World Report*.

The July 27 issue of the publication ranked University of Minnesota Medical Center, Fairview among the nation’s top 50 hospitals in six medical specialties—kidney disorders; pulmonology; gastroenterology; cancer; ear, nose, and throat; and orthopaedics.

In August the magazine ranked University of Minnesota Amplatz Children’s Hospital among the nation’s top 50 children’s hospitals in eight medical specialties—an all-time high for the hospital.

This marks the fourth consecutive year that the hospital’s cancer program has been ranked among the country’s best and the third consecutive year its kidney care program made the list. The other specialties that ranked in the top 50 are diabetes and endocrinology, urology, cardiology and heart surgery, neonatology, gastroenterology, and pulmonology.

The annual rankings are based in part on reputation, death rate, and care-related factors such as nursing and patient services. The full report is at health.usnews.com/best-hospitals/rankings. [MIB](#)

WEB EXTRA



View a photo slideshow from the groundbreaking at www.mmf.umn.edu/mb/groundbreaking.

Find more news online

COMBAT MEDIC TRAINING

With support from an \$11 million grant from the U.S. Department of Defense, Medical School researchers will lead a consortium that will define the future training of combat medics.

CHILDREN’S DENTAL CLINIC

A \$3.5 million gift from Delta Dental of Minnesota Trust will support the construction of the state’s only hospital-based pediatric dental clinic, which will be built adjacent to the new University of Minnesota Amplatz Children’s Hospital.

EPILEPSY IMAGING STUDY

Using high-field magnetic resonance imaging technology, Medical School researchers may have uncovered a better approach to diagnosing epilepsy, which could lead to seizure relief for more patients.

RARE PEDIATRIC TUMORS

A \$3.5 million grant from the National Institutes of Health will allow a Masonic Cancer Center, University of Minnesota team to begin the largest epidemiologic study ever conducted on the genetic susceptibility of developing pediatric germ cell tumors. [MIB](#)

Read more at www.mmf.umn.edu/bulletin.

New cell-replicating method boosts transplant odds

University of Minnesota Medical School and Masonic Cancer Center researchers have discovered a method to quickly and exponentially grow regulatory T-cells, dramatically increasing the chances for successful bone marrow and organ transplants.

The new technique, developed by Bruce Blazar, M.D., director of the University's Clinical and Translational Science Institute, and an immunology team, also will have profound implications for patients with autoimmune diseases such as lupus, type 1 diabetes, Crohn's disease, and multiple sclerosis.

It enables replication of the cells by up to 50 million-fold; previously a 70-fold expansion was considered a good result.

Already the approach has shown promise in treating acute graft-versus-host disease, says Blazar, the study's senior author. In that common post-transplant condition, T-cells from the donor's bone marrow recognize a recipient's body as foreign and try to attack.

The next step will be phase 1 human clinical testing headed by the University's John Wagner, M.D., a world leader in blood and marrow transplantation.

"This is truly exciting and a major, major breakthrough with profound implications in the treatment of our patients," Wagner says. "[We] hope to move these trials ahead quickly to treat autoimmune diseases, which affect hundreds of thousands of people worldwide."

The findings were published in the May 18 edition of *Science: Translational Medicine*.

Assistant professor Keli Hippen, Ph.D., was the lead investigator of the study, which was funded by the National Institutes of Health, Leukemia and Lymphoma Society, and Children's Cancer Research Fund. ^{MB}



U discovery could help humans and dogs with bone cancer

HUMANS AND CANINES may benefit from a recent University of Minnesota discovery that can help predict the aggressiveness of bone cancer.

A team led by Jaime Modiano, V.M.D., Ph.D., a College of Veterinary Medicine and Masonic Cancer Center expert in comparative medicine, discovered a gene pattern in dogs that distinguishes a more severe form of bone cancer from a less aggressive type.

Human and canine forms of bone cancer are very similar, and the gene pattern is an exact match, says Modiano. That means the discovery of this key differentiating signature may help doctors select the best treatment for both dogs and humans with bone cancer.

In humans, bone cancer typically affects children, and the course and aggressiveness of the disease are often unpredictable. The new discovery may change that.

"Our findings pave the way to develop laboratory tests that can predict the behavior of this tumor in dogs and children at the time of diagnosis," says Modiano. "This allows us to tailor individualized therapy to meet the patient's needs."

The study was funded by the National Cancer Institute, the AKC Canine Health Foundation, and the Kate Koogler Canine Cancer Fund. The research findings were published in the September issue of *Bone*. ^{MB}

Medical School welcomes new ophthalmology head

Fredericus (Erik) van Kuijk, M.D., Ph.D., on October 1 began his new duties as head of the Department of Ophthalmology at the University of Minnesota Medical School. He replaces Jay H. Krachmer, M.D., who retired this fall after a distinguished 49-year medical career that included chairing the department since 1992.

An expert in early diagnosis and nutritional and pharmacological therapies for age-related macular degeneration (AMD), van Kuijk earned both his M.D. and Ph.D. (biochemistry) from the University of Nijmegen, the Netherlands. His research has led to new approaches to preventing the progression of AMD.

“What attracted me here were the quality and diverse talents of the faculty in ophthalmology,” van Kuijk says. “Because the department has clinical faculty that have this basic science background, it provides us an opportunity to initiate more translational research projects.”

Van Kuijk completed his internship, residency, and fellowship at the University of Texas Medical Branch, Galveston, where he was a professor in the Department of Ophthalmology and Visual Sciences before coming to Minnesota. He also completed an additional year of training in retinal degenerative diseases at Moorfields Eye Hospital, London. [\[MB\]](#)



Fredericus (Erik) van Kuijk, M.D., Ph.D.

Coach and family raise awareness and funds for Fanconi anemia

When Florida State University football coach Jimbo Fisher and his wife, Candi, learned earlier this year that their son Ethan has a rare, life-threatening blood disorder called Fanconi anemia, they felt compelled to take action that would help not only Ethan but other children, too.

So they established the Kidz 1st Fund to raise money for Fanconi anemia research at the University of Minnesota. The University is a leader in discovering better ways to treat the disorder and in the pursuit of a cure.

A hereditary disease, Fanconi anemia can affect all systems in the body and leads to bone marrow failure. For decades, it was thought to be untreatable, but advances in medical research have improved the prognosis for people with the condition.

“One thing I’ve learned as a football coach is to never accept defeat,” says



Jimbo Fisher. “We are in this to win the fight against Fanconi anemia on behalf of all the children who share this struggle with Ethan.”

The family and their supporters already have raised more than \$400,000 for the University’s work. Six-year-old Ethan’s physician is University of Minnesota Amplatz Children’s Hospital blood and

marrow transplant physician Margaret MacMillan, M.D. Jimbo and Candi Fisher threw their support behind Fanconi anemia researchers at the University of Minnesota after their son Ethan (far right) was diagnosed with the disease.

marrow transplant physician Margaret MacMillan, M.D.

“Through research, improvements are made each year in treating patients with Fanconi anemia—improvements that have changed the survival rate after unrelated donor bone marrow transplant for this disease from less than 30 percent to greater than 80 percent in the last 15 years,” MacMillan says. “But there is much more to do. We will not stop until we have 100 percent survival.” [\[MB\]](#)

Visit www.kidz1stfund.com to make a gift to this research.

PHOTO: COURTESY OF FLORIDA STATE UNIVERSITY

Global Outreach

LOCATION: Cannon Falls, Minnesota MISSION: To prepare participants for crisis response



Humanitarian aid 101

Students and clinicians get hands-on experience in international disaster relief

We're in the midst of a deepening humanitarian crisis; chaos and confusion reign. The small disaster assessment team with which I'm traveling from one refugee camp to another has a seemingly straightforward mission—to gather information—but distractions and complications abound.



PHOTO: SCOTT STREBLE

Painted sticks represent groups of people in this mock village. Each color signifies a person of a certain sex and age group.

Bureaucratic roadblocks, political rivalries, run-ins with well-meaning but misguided missionaries, roving armed militias, aggressive journalists, even a rabid stray dog consume valuable time and attention. In turbulent Gopherstan, straining from a massive influx of refugees from Badgeria, it's hard to stay focused on the task at hand.

Of course, Gopherstan isn't a real place. It's an imaginary country, a fictional composite of several global trouble spots, conceived by the American Refugee Committee's Eric James and the University of Minnesota Medical School's Sarah Kesler, M.D., for this year's Global Health Course and James's Humphrey Institute humanitarianism class. We're actually at a Boy Scout camp in Cannon Falls, Minn., but the stress feels as palpable as the hot August sun overhead.

The Global Health Course, taught in collaboration with the Centers for Disease Control and Prevention, aims

to decrease disparities in medicine, in part, by improving health care for immigrants, refugees, and travelers. The course is open to practicing health professionals in addition to resident physicians in training. Gopherstan is meant to give course participants a taste of working under pressure in "resource-limited settings."

Made up of rookie specialists in health, water and sanitation, shelter, security, and more, the fictional NGO team is charged with rapidly assessing humanitarian needs in a series of Gopherstan refugee camps. Among its many challenges is to avoid duplicating efforts with the growing hodgepodge of other aid organizations responding to the crisis—and conditions change quickly, unpredictably. As in real life, efficiency, a high tolerance for ambiguity, and the ability to hit the ground running are invaluable assets.

"The idea was to make this as realistic as possible," James says.

Gopherstan takes on 'a life of its own'

At one makeshift camp, in the village of Enjab, villagers sound overwhelmed. A local merchant named Chuck tells medical representative Sonya Haw, M.D., that “people have been sick; some [refugees] are dying,” though he can’t offer numbers or specifics. “We have a river nearby — people are getting their water from there,” Chuck says. “And I’ve seen some shallow graves outside of town.” Shifting gears, the merchant then tries to sell the team beans, rice, and plastic sheeting for shelter.

Student Abdi Ahmed, the simulation’s water and sanitation expert who’s charged with assessing the most socially appropriate way to set up latrines for the refugees, says that understanding cultural norms is one of the team’s biggest and toughest responsibilities. In each location, he adds, it’s imperative to identify village and refugee leaders who can represent different communities affected by the crisis.

Days later, Kesler, an internist, reflects that she was pleasantly surprised at how “this [fictional] world really kind of took on a life of its own.” Volunteer role-players brought creativity and their own ideas to the simulation: In one village the team encountered a physician who was having a psychotic breakdown—a reaction, participants deduced, to anti-malarial medication.

Global Health Course director William Stauffer, M.D., M.S.P.H., whose school-age sons were gun-toting child militia members and whose family dog played the role of rabid stray, was struck by how “adaptable” most of the students proved to be. “Many had never worked in any situation like this, and they did well,” Stauffer says. “It was stressful, and people had a corresponding intense experience. ... I was impressed by how well most rose to the occasion.”

Looking to the future

Participants learned the importance of talking to “regular folks” in affected villages and camps, Kesler says. During the exercises, “the teams that engaged the common people



LEFT Global Health Course director William Stauffer, M.D., M.S.P.H., briefs teams on the situation in Gopherstan at the beginning of the exercise.

BELOW Medicine-pediatrics resident Sonya Haw, M.D., served as her team’s medical specialist.

ended up getting better information” than those who dealt exclusively with the leaders. This mirrors Kesler’s experiences working with organizations like Doctors Without Borders: Those who reach out to the people on the ground meet with greater success.

Global Health Course student Masha Bowen, a pediatric nurse practitioner who’s volunteered in Honduras and Haiti, agrees. She says the exercise underscored for her the value of building relationships in the community in which she’s working. “Really being in the community — connecting with people and staying for a long time — is important” to move beyond “the Band-Aid” syndrome, Bowen says.

Organizers say that despite a few rough spots, their first disaster response simulation together likely won’t be the last. “I don’t know if this event was the next best thing [to real-life experience], but we’d like to turn it into that,” Kesler says.

Stauffer agrees. “Creating chaos takes a lot of planning,” he says. “I think [next time] it will be bigger, longer, and more involved now that we have an idea of what we can pull off.”

Bowen already plans to return next year as a volunteer. “It was wonderful. The whole exercise felt so real ... after it was over I actually felt a little posttraumatic stress.” ^[MIB]

By SUSAN MAAS, a freelance writer and editor who lives in Minneapolis



PHOTOS: SCOTT STREBLE

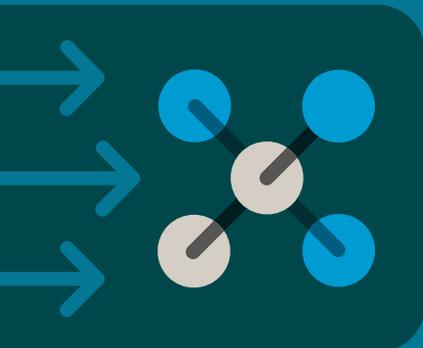
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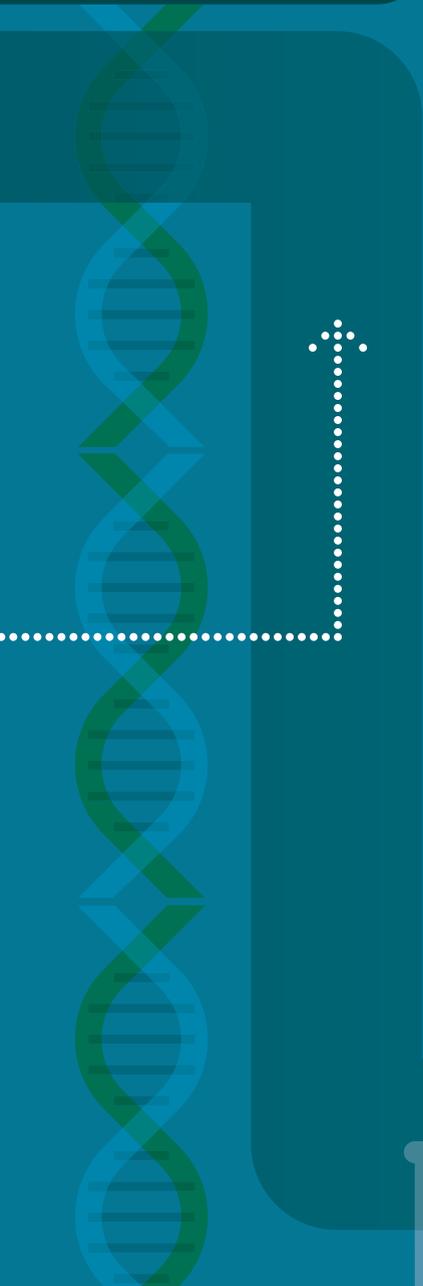
See a photo slideshow from the simulation at www.mmf.umn.edu/mb/crisis.



Streamlining.....



When Dorothy Hatsukami, Ph.D., began her University of Minnesota research career, investigators had to be “extraordinarily resourceful” to find everything they needed to conduct a study, from laboratory equipment to advice on filling out regulatory forms. □ “Individual researchers had to do pretty much everything on their own,” says Hatsukami, a professor of psychiatry and director of the University’s Transdisciplinary Tobacco Use Research Center. It took time and sleuthing to get questions answered, forms completed, and studies set up and running. “There wasn’t one place that you could go to ask questions,” she recalls. □ Today, 30 years later, that “one place” is finally becoming a reality for University researchers. □ The Clinical and Translational Science Institute (CTSI), launched in April 2009, aims to be a one-stop shop for clinical and translational researchers. It’s doing so by centralizing research services that were previously spread out across several departments, as well as by



SCIENCE

The U's new Clinical and Translational Science Institute puts focus on bench-to-bedside research

investing in new, shared programs and technology that will be made available to all researchers, including offsite collaborators.

“The idea is integration for the purposes of highest efficiency, greatest patient safety, and optimum faculty and staff productivity,” says Bruce Blazar, M.D., the CTSI’s founding director and a Regents professor of pediatrics.

That may sound like a yawner, but it’s a big deal for scientists, doctors, and patients. That’s why the National Institutes of Health (NIH) just awarded the University a \$51 million federal grant to accelerate the CTSI’s work, which also includes boosting community engagement and training the next generation of researchers and clinicians.

With the grant, the University joins a consortium of 60 Clinical and Translational Science Award (CTSA) health research centers across the country that are sharing resources and best practices in an effort to speed the translation of research discoveries into better patient care. The bottom-line outcome: more real-world cures, treatments, and best practices, says

Frank Cerra, M.D., former senior vice president for health sciences and one of the CTSI’s leading proponents.

“It’s the infrastructure that will support an increased volume, on a shorter time line, of translational research that gets new knowledge into new treatments, new cures, and new companies,” he says. “That’s what this is about.”

Siloed approach in the past

Clinical and translational research at most institutions has tended to occur in silos and at a slow pace; on average, it takes 17 years for a lab discovery to actually benefit people, say CTSI leaders. All of the day-to-day and administrative tasks related to conducting studies have usually landed on the staff or department of the individual investigator, often on the shoulders of just one or two people for each area.

“As investigators, we were left to our own devices, so sometimes there would be duplication of effort in overcoming obstacles or challenges necessary to bring research forward,” says Blazar, who is a pediatric blood and marrow transplant physician.

PHOTO: SCOTT STREBLE



Though longtime tobacco researcher Dorothy Hatsukami, Ph.D., has her own staff, she still turns to the CTSI for research support.



Aaron Kelly, Ph.D., talks to a research participant about next steps in his adolescent obesity program.

In October 2005, the NIH announced it wanted to see a new, more efficient approach to clinical and translational research at the nation's academic health centers. "We are truly at a crossroads in medicine," the institutes' then-director, Elias Zerhouni, said at the time. "The scientific advances of the past few years, such as the completion of the Human Genome Project, dictate that we act now to encourage fundamental changes in how we do clinical research, and how we train the new generations of clinician scientists for the medical challenges of this century."

The NIH unveiled the CTSAs—large, multiyear grants to academic health centers and their community partners that can demonstrate a strong plan for reorganizing the way they support clinical and translational research. Among its priorities: lowering barriers across scientific disciplines, improving community engagement, and training the next generation of clinical and translational research scientists.

The University's initial applications for the award fell short. After revamping

the interdisciplinary research section and bolstering the Academic Health Center's health informatics program, it was successful this year. In June, the NIH announced a five-year, \$51 million award—the largest single-institution NIH award the University has ever received.

Growing data and complexity

The University has long been a leader in clinical and translational research, says Aaron Friedman, M.D., vice president for health sciences and dean of the Medical School. He points to the school's history of developing new cancer treatments and transplant procedures, for example. The CTSA will help the University continue that success into the future, he says. "These awards provide the infrastructure to be able to do that kind of work the way it actually needs to be done in the 21st century."

In the past, a well-organized spreadsheet and file cabinet might have been all the tools necessary to manage and analyze the data coming out of a clinical study. Today, though, both the volume and complexity of information researchers have to deal with has grown exponentially. "The amount of data has just exploded," says Connie Delaney, Ph.D., R.N., dean of the School of Nursing and director of the Academic Health Center's Biomedical Health Informatics program.

That data explosion has been driven by factors such as our knowledge of the human genome, the use of medical imaging technology, and the electronic health record. "Those are expansive amounts of data that, when used for discovery, enable us to deliver better care," says Delaney. The availability of these data also requires clinical

researchers to track, manage, and analyze far more information. Add the electronic medical record and a never-ending stream of new scientific literature, and the data management burden on small research teams or departments gets to be overwhelming.

These trends make sharing and collaboration increasingly critical, something the NIH recognized when it designed the CTSA program.

Shared technicians, technology

The CTSI provides à la carte services for clinical researchers, from injecting medication and collecting blood samples to preparing grants and analyzing statistics.

As a senior researcher three decades into her career, Hatsukami has her own staff to manage most of the tasks related to running a research project. However, she still turns to the CTSI for help with certain functions. She conducts her clinical studies of tobacco users at the CTSI's Delaware [Street] Clinical Research Unit, where the institute provides exam and observation rooms and CTSI staff can assist as needed with blood draws and other tasks. "Everything is here, in one place, for us to conduct studies," says Hatsukami.

Meanwhile, the CTSI, integrally linked to the Institute for Health Informatics, led by Delaney, is investing in a suite of software, such as clinical trials management systems, that will be available for use by any University investigator. The goal is to establish a common and secure platform for managing clinical data, which should relieve the tech support burden on individual teams and departments, as well as make de-identified patient data

easier to share with colleagues and collaborators across departments or multiple sites.

The ability to share technology and connect collaborators is critical to a current study by Aaron Kelly, Ph.D., an assistant professor of pediatric cardiology. He's working with clinicians at Children's Hospital and Clinics of Minnesota on a pediatric obesity study that is exploring the potential of an adult diabetes drug to help treat extreme obesity in adolescents. The study is funded by the CTSI, but it also relies on a piece of software provided by the institute called REDCap, which allows Kelly and his collaborators to collect and securely input data into the same database from either site.

"It's important to have a secure system, and one that can be easily accessed and used across multiple centers," says Kelly. "For a lot of us, setting up databases is not our expertise, so that kind of support is invaluable."

Shared software and common practices for inputting data should also make it easier to share with other researchers, whether across campus or across the country.

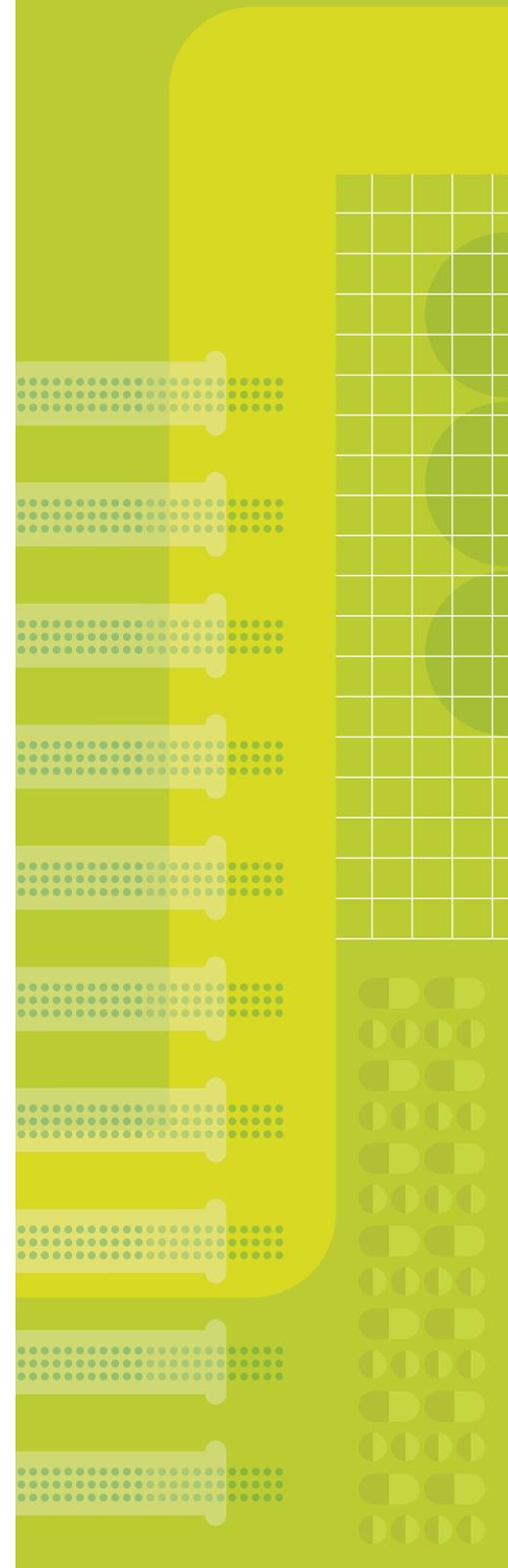
Data + ideas + people

One of the CTSI's primary goals is to build more cross-disciplinary collaborations among researchers and better connect researchers to communities outside the University's walls.

In August, the institute launched a social network for University researchers called UMN Profiles, which can be used to help people find other investigators with like or complementary research interests and expertise.

[We have] expansive amounts of data that, when used for discovery, enable us to deliver better care.

— Connie Delaney, Ph.D., R.N.



We're looking at a single clinical enterprise for translational research.

Bruce Blazar, M.D., CTSI director

The CTSI is also working with several community-led committees charged with developing partnerships among University researchers and communities across Minnesota. The committees—focused on child health, health disparities, rural health, and health care systems—will help to identify priority research topics, design studies, and disseminate the results of completed research.

“They’re going to help us identify the ways in which researchers from the University should approach and work with community partners,” says Andrea Leinberger-Jabari, coordinator for the CTSI community engagement efforts. “These leaders are closer to the community that they’re serving, so they can help researchers set the agenda and conduct research that ultimately helps build healthier communities.”

Mitchell Davis Jr., who chairs the University’s Community Health Advisory Council, one of the four committees, says he sees opportunity for a two-way

conversation. The committee can call attention to new or overlooked research priorities and share advice on approaching people in their community. It can also play a role in distributing research results. “[Researchers are] not necessarily the ones who will know ... who the influencers are,” says Davis.

Training the next generation

In addition to creating a shared infrastructure and improving community connections, the CTSI will stress training the next generation of clinical researchers and technicians. Plans call for developing new programs and courses to expose students to research careers earlier on and throughout their programs as well as continuing to provide mentorship opportunities.

Medical student Emily Mood says most of her exposure to clinical research has been either introductory or aimed at how to read and use research in practice. For some of her classmates, that was enough. But for her and others who entered the program with an interest in clinical research, there’s room for more emphasis.

“My friends who were interested in research and I thought it should have been given much more priority, and I think my friends who were less interested in research thought it was plenty the way it was,” says Mood. She’s spending her fifth year (through the Flexible M.D. program) in Mexico City working on a clinical environmental health study that will explore the interaction of lead exposure and maternal stress on childhood development.

CTSI founding director Bruce Blazar, M.D. (left), and Medical School Dean Aaron Friedman, M.D., expect a \$51 million NIH grant to accelerate discovery that benefits the larger community.

PHOTO: SCOTT STREBLE



Sarah Cusick, Ph.D., an assistant professor of global pediatrics, will be working to establish her research career over the next few years through the CTSI's KL2 Scholars Program. The mentoring and career development program will pay 75 percent of her salary for the next three years and give her regular contact with three mentors, one of whom must be a statistician. Cusick, one of five KL2 scholars chosen this year, will be studying the interaction between infection and nutrition.

"It would be a lot more stressful right now" without the program, says Cusick. "I have this three-year breathing space. ... I'm definitely learning the procedure for making research ideas become reality, but also learning to expand and enhance those research ideas, looking for outcomes that I might not have previously known to look for."

Cultural shift needed, too

CTSI leaders say they've made considerable progress in putting the institute's pieces in place. Some functions are still ramping up and some software and technology still need to be purchased, but the \$51 million NIH grant will accelerate the transition they started just over two years ago.

"We're looking at a single clinical enterprise for translational research," says Blazar. "We're going to try to develop an approach that meets the needs of our investigators in a way that we haven't been able to do before."

Money can go only so far. For the CTSI and its grant to be successful, a cultural change will be required as well, says John E. Wagner, M.D., codirector of the University's Center for Translational Medicine, now part of the CTSI (see sidebar).

Center for Translational Medicine: Bridging the gap

THE TRANSLATIONAL "PIPELINE" — the path science takes from bench to bedside — starts with basic science and drug discoveries and ends in clinical trials and regulatory approval.

A few years ago, John E. Wagner, M.D., and Bruce Blazar, M.D., both clinical researchers and professors in the Department of Pediatrics, spotted a clog in the University's pipeline.

"You can get funding for the very basic research, and you can get funding for the clinical trials, but trying to get funding to support this in-between section is impossible," says Wagner.

What happens in between are less glamorous, preclinical studies, including proof-of-principle testing and animal toxicology studies, that are required before a treatment is approved for human trials.

Wagner and Blazar had developed some expertise in this area, and in 2007 they helped launch the Center for Translational Medicine (CTM). Now part of the Clinical and Translational Science Institute, the center offers University researchers expertise, technicians, facilities, and funding to support translational research and prepare treatments for clinical trials.

PHOTO: EMILY JENSEN



The Center for Translational Medicine, co-led by John Wagner, M.D. (right), helps to ensure continuity of research from the laboratory to patients.

While the Clinical and Translational Science Institute focuses on the entire pipeline, CTM zeroes in on the gap between basic science and clinical studies. It helps to design and conduct studies, plan project timelines, and, if and when the time comes, manufacture treatments for use in Phase I clinical trials.

"This is ... bridging the gap between basic science and clinical medicine," says Wagner. "That's what the Center for Translational Medicine is."

The problem is that today, developing new therapies is too complex and too expensive to do alone, and the University can't afford to duplicate services, Wagner says. "We have to really espouse the team culture — that the team is greater than the sum of its parts." ^[MIB]

Dan Haugen is a Minneapolis freelance writer who covers business, technology, and sustainability.

WEB EXTRAS



Learn more about the impact of the University's CTSI at www.mmf.umn.edu/mb/ctsi.



TIMELY INTERVENTION

BY JEANNE METTNER

When 66-year-old Patty Bilkey experienced sudden fatigue on a Monday in late June last year, she attributed it to the only reasonable explanation she could think of—overdoing herself during a “girls’ weekend” away.

But when her skin became clammy and she began experiencing flu-like symptoms with a slight pain in her left arm, she became more concerned.

“I remember I was sitting at the computer that morning, looking up ‘how to get more energy’ when it dawned on me that I should instead be doing a search on signs of a heart attack,” Bilkey says.

Bilkey’s husband rushed her to Fairview Southdale Hospital, where she learned that she had had a massive heart attack. There she received an angioplasty and two stents to open her blocked heart vessels—and an invitation to participate in leading-edge research offered through the hospital’s partnership with University of Minnesota Medical Center, Fairview.

For decades, the University of Minnesota has been pioneering ways to improve the lives of people who have heart disease—from early diagnosis

to heart transplants and ventricular assist devices. Today it is a leader in an emerging area of study: stem cell treatments to repair damaged hearts.

A chance to help the heart recover

That expertise would prove beneficial to Bilkey. Two days after her heart attack, she was invited to participate in a groundbreaking multicenter study funded by the National Institutes of Health known as Late TIME (Transplantation in Myocardial Infarction Evaluation), which is designed to evaluate whether implanting a patient’s own stem cells into the heart two to three weeks following a heart attack could help to safely and effectively improve cardiac function. If she agreed to enroll, Bilkey would be assigned either to a “treatment” group that receives an injection of millions of stem cells from their own bone marrow or to a “standard care” group that receives a placebo injection.

Can a patient's own stem cells repair a damaged heart? Clinical research holds the answer.

"My immediate response was, 'Where do I sign?'" recalls Bilkey. "I felt like I had nothing to lose."

Three weeks later, she received her injection. Because it's a double-blind study (see sidebar on page 16), neither she nor her doctors will know whether she received stem cells or a placebo until later this fall. At that time, the data will be "unblinded" and analyzed, and some of the study results will be released.

In addition to Late TIME, University researchers are participating in a similar national, multicenter trial known simply as TIME, which is evaluating the success of the same stem cell therapy given just three to seven days after the patient's heart attack.

Since the two studies began in 2010, more than 200 people have enrolled nationwide. Ten of them are at the University.

"The University of Minnesota has a long-standing tradition in both transplantation and cell therapy initiatives," explains Daniel Garry, M.D., Ph.D., chief of the Medical School's Division

PHOTO: SCOTT STREBLE



Clinical trial participant Patty Bilkey says she feels great — and ready to chase after grandson Harvey Perkins.

of Cardiology and executive director of the Lillehei Heart Institute. "Our goal with these studies is to look critically at the benefits of using a patient's own cell therapy following a heart attack."

Led by interventional cardiologist Ganesh Raveendran, M.D., the cardiac cell therapy research team includes Garry, cardiologist Cindy Martin, M.D., cardiothoracic surgeon Ranjit John, M.D., and research nurses Emily Caldwell, B.S.N., R.N., and Barbara Bruhn-Ding, B.S.N., R.N.

Our goal with these studies is to look critically at the benefits of using a patient's own cell therapy following a heart attack. – Daniel Garry, M.D., Ph.D.



PHOTO: SCOTT STREBLE

Ranjit John, M.D., directs the University's Ventricular Assist Device Program.

“There is no doubt that in recent decades, we have continued to significantly improve treatments for patients who have had heart attacks. Despite this, their heart function doesn't recover as well as it should,” says Raveendran. “Ultimately, we hope that cell therapy will improve cardiac outcomes and quality of life for these patients.”

Stem cells and devices

In addition to helping to boost heart function after heart attacks, stem cell therapy may also be boosting the effectiveness of mechanical treatments for heart failure.

The U.S. Food and Drug Administration has recently authorized the team to conduct another study. Starting this fall and exclusively at the University, 24 patients with severe heart failure will receive either injections of their own stem cells or a placebo injection during the implantation of a left ventricular assist device (LVAD).

LVADs are implanted pumps that help maintain adequate circulation in patients with severe heart failure. In some cases, LVADs allow hearts to rest and recover. In other cases, they can be used as a “bridge” therapy until the patient can get a heart transplant, or when transplantation is not an option, LVADs can provide permanent circulatory support.

The University's study will be one of the first in the nation to examine the effects of stem cell therapy during LVAD placement. It's a natural extension of the successes the University has had since its physicians began

using LVADs in 1995. Still national leaders in this field, University doctors implant nearly 80 LVADs each year.

One-third of the patients in this LVAD cell therapy study will receive a placebo injection during the pump implantation surgery, while the other two-thirds will receive millions of their own stem cells. If patients in the study eventually get heart transplants, researchers will examine their native hearts to determine whether bone marrow stem cells have grown into cardiac cells.

“The holy grail of end-stage heart failure remains myocardial recovery, so our hope is that this therapy will help the heart recover better,” says John, who directs the University's Ventricular Assist Device Program. “After a period of three to six months, we will gradually wean down the support given by the LVAD—then determine whether the function of the native heart is improving.”

A prelude to new achievements

Throughout the past several years, investigators from seven of the University's basic science laboratories have

TIME TRIALS: PARTICIPATION AT A GLANCE

Like many robust studies involving new therapies, the TIME (Transplantation in Myocardial Infarction Evaluation) trials are randomized, double-blind, placebo-controlled studies. Two of every three patients who participate in the trials will receive an injection of stem cells, while the others will receive a placebo. Neither the patient nor researcher knows which the patient is receiving—hence the term “double blind.”

been focusing on human stem cells and their ability to give rise to heart cells—the results of which have helped clinical researchers fine-tune their work in preparation for these studies.

Preclinical animal studies conducted here have also contributed to this research, as has the Minnesota Molecular and Cellular Therapeutics facility on the St. Paul campus, one of only three centers in the world that processes cells for cell-therapy research and treatment.

“All of the basic science work, coupled with our experience in implanting LVADs and in processing stem cells, has served as a prelude to the innovative clinical investigations we are doing now,” Garry says.

A positive effect

Raveendran finds it rewarding to see patients become more optimistic about their prognoses—even if they don’t know whether they’ve received the stem cell therapy or a placebo.

“In this study, patients are eager and enthused,” he says. “They know that

there is a two-in-three chance that they will receive stem cells, and this brings a tremendous amount of hope to them.”

For Bilkey, participating in the study has come with no regrets. After her heart attack, her heart’s ability to pump blood was reduced by half. Today tests show that her heart’s pumping function is nearly normal.

Bilkey looks forward to her main sources of daily physical activity—walking, riding her stationary bike, and keeping up with her 6-year-old and 1-year-old grandkids.

“I definitely feel better than before I had the heart attack,” says Bilkey. “I really see no negatives through my participation in this study at all. If I had to do it all over again, I certainly would.”

In a heartbeat, perhaps. MB

Jeanne Mettner is a Minneapolis-based writer who specializes in medicine and health.

PHOTO: SCOTT STREBLE



Ganesh Raveendran, M.D., who leads the TIME trials for the University, finds clinical research participants’ optimism rewarding.

To make a gift to support heart cell therapy research at the University of Minnesota, contact Amanda Storm Schuster at 612-626-2475 or a.schuster@mmf.umn.edu.

“It’s extremely important to have a double-blind protocol because the ‘placebo effect’ can materialize—not only from the patient’s perspective but also the physician’s or nurse’s standpoint,” explains interventional cardiologist and TIME investigator Ganesh Raveendran, M.D. “There is a natural inclination to say that the treatment you are receiving is working and that the treatment you are giving is successful. Double-blinding ensures that those beliefs and perceptions don’t affect the study integrity.”

For those who agree to participate in a TIME clinical trial, “treatment” begins anywhere from two days to three weeks after the patient signs on.

If the patient is assigned to the “treatment” group, he or she undergoes a bone marrow aspiration, during which bone marrow is extracted from his or her hip and is then sent to the Minnesota Molecular and Cellular Therapeutics facility on the University’s St. Paul campus for processing. Four to five hours later, the patient’s stem cells are sent back to the hospital,

where they are injected into the patient’s heart through a catheter.

If the patient is assigned to the “standard care” group, he or she will still undergo the bone marrow aspiration but instead will receive a placebo injection. (Patients have the option to donate any stem cells that are not used in the study to a research storage repository that the University shares with the University of Florida.)

Researchers then follow up with the patient 3, 6, 12, and 18 months later to evaluate how well the heart is functioning.



Pathfinding

Native American medical students find the route that's right for them

KATHLEEN ANNETTE, M.D., Class of '83, has traveled the country on a winding career path that recently brought her to a brand-new place—and back home again.

On September 1, after 25 years with the Indian Health Service, Annette began her new role as CEO of the Blandin Foundation, based in Grand Rapids, Minn. There she plans to work with the foundation's board and 26-person staff to accomplish its mission: to strengthen rural Minnesota communities.

She wants to do that in part by examining diversity in the context of race, gender, poverty, and access to education to determine how the foundation can help communities be their healthiest.

In her Bemidji office before the move, Annette carefully removes a photo from a memorabilia-covered wall.

Snapped 50 years ago on the Leech Lake Reservation in northern Minnesota, it captures a 5-year-old Kathy Annette with her two sisters and their mother, Eleanor (Big Bear) Annette, who's wearing a big white bandage on her finger.

Kathy Annette recalls accompanying her mother to the clinic that day. As the doctor began stitching up Eleanor's deep gash, he asked little Kathy if she wanted to watch him. She surprised him by eagerly climbing up for a better view.

Annette's interest in medicine was further fueled in college, when she participated in summer science programs for Native Americans offered by the University of Minnesota Medical School, Duluth campus. The programs were launched in 1972, when leaders made it part of the school's mission to encourage young Native Americans from around the country to enter medical careers.



BY MICHELLE JUNTUNEN

After completing medical school at UMD and a family medicine residency in Duluth, Annette practiced at Cass Lake Indian Hospital on the Leech Lake Reservation for three years and became chief medical officer.

Becoming a leader

Then her career path took a sharp turn—into health care policy and administration.

Area tribes asked her to apply to become area director of the U.S. government's Bemidji Area Indian Health Service. "The tribes wanted someone in the position that they could really trust, and I took to executive leadership very quickly," says Annette, who was acting deputy director for field operations when she accepted the Blandin Foundation position.

The Bemidji Area Indian Health Service provides health services for more than 60,000 American Indians from 34 federally recognized tribes in Minnesota, Michigan, and Wisconsin as well as urban health programs in five major cities. Annette took the job and started traveling extensively in the five-state region and nationally.

Annette admits that she missed the immediate gratification of medical practice, which allowed her to make a real difference for patients in just days or weeks, but she believes her impact grew when she joined the Indian Health Service.

"Administrative and policy work can be measured in years, but some of the things I've been able to do also have allowed me to make a difference in many more lives," she says, such as promoting clean water initiatives and better diabetes management.

"But it was time for me to make one more career change," she says. "In fact, after traveling the country for 25 years, it was time for me to come home."

Many routes to medicine

The summer science programs that helped inspire Kathy Annette's career are now overseen by the Medical School's Center of American Indian and Minority Health (CAIMH), founded in 1987. Following is a brief look at three CAIMH participants who, like Annette, are finding their own routes along what's known as the Indian Health Pathway.

PHOTO: DAVE BIERK



When Kathleen Annette, M.D., graduated from medical school in 1983, she became Minnesota's first Ojibwe woman physician. Today she is CEO of the Blandin Foundation.

Christine Athmann Her own journey

PATH: From Mahnomen, Minnesota, to Indian Health Service internship to medical practice



PHOTO: AARON HAUTALA

IT'S LATE AFTERNOON at the Cuyuna Regional Medical Center in Crosby, Minn., and Christine Athmann, M.D., is checking on her patient, a first-time mother in labor.

As she waits for the labor to progress, Athmann is happy to talk about CAIMH and how the experience helps in her practice: "It's helping me right now, with this couple," she says. "The father is a Mille Lacs Band tribal member, and the couple wanted the delivery to be as natural as possible.

"They've had some requests that made other doctors hesitate," Athmann continues. "While I was more sensitive to their delivery plan, I still felt their discomfort until I asked them a revealing question: whether they would be having a traditional Indian naming ceremony. Looking surprised, the father asked how I knew about naming ceremonies. When he learned that I grew up on the reservation and have Native training, he visibly relaxed."

Rediscovering traditions

Athmann was born on the White Earth Reservation near Mahnomen, Minn. Her mother was a tribal member but knew little of her family's Native American cultural traditions because many of her elder relatives had been placed in a boarding school off the reservation.

In high school, Athmann rediscovered those traditions when she was recruited by CAIMH to participate in an internship that involved shadowing a physician and nurses in her local Indian Health Service clinic. She was hooked.

The next turn

In college she participated in CAIMH's Native Americans into Medicine (NAM) program, and in medical school, Athmann and other Native American medical students learned and shared Indian traditions through CAIMH.

"It was a really a nice opportunity to be taught the things that Grandma never had the opportunity to teach me. I didn't know a lot about the significance of tobacco, prayer, language, and ceremonies," Athmann says. "When we would have culturally significant activities, I learned a lot about my own culture."

Although this Class of 2007 alumna has just begun her medical practice, she knows already that she wants to spend more time in a clinic on the Mille Lacs Reservation and eventually enroll in a health care MBA program.

"I think that [with an M.B.A.] I can make an even greater impact, helping multiple tribes across the nation," Athmann says. "It would be a great opportunity to be out there and be a voice for Native American people, and having an M.D. behind your name sometimes gets you heard by more people."

I didn't know a lot about the significance of tobacco, prayer, language, and ceremonies. With CAIMH, I learned a lot about my own culture.

— Christine Athmann, M.D.

Coridon Quinn On the right road

PATH: From Farmington, New Mexico, to research scientist to medical student

IT WAS 9 P.M. and third-year medical student Coridon Quinn had just arrived home after a surgical rotation that had started at 4:30 a.m. at University of Minnesota Medical Center, Fairview in Minneapolis.

“It’s definitely taxing, but also exciting. I really enjoy it, but the kids miss me,” sighed Quinn, as the voices of his two boys, Tristen, 10, and Rowen, 4, echoed in the background.

Quinn is a nontraditional student: The 32-year-old of Cherokee descent was born in New Mexico, raised in Oklahoma, attended high school in Pennsylvania, and received his undergraduate degree from the Florida Institute of Technology.

Reevaluating priorities

A frightening “wake-up call” put him on the path to medicine. After seven years as a biodefense research scientist in Florida, Quinn was driving home one night after work. He awoke in a ditch after his tires blew out and he rolled the car.

The experience made him reevaluate his priorities and explore enrolling in medical school. He soon met CAIMH director Joycelyn Dorscher, M.D., at a three-day pre-admission workshop in Idaho hosted by the Association of American Indian Physicians. With her encouragement, he applied and was accepted to medical school at the University of Minnesota, Duluth campus. So he and his wife, Cathryn, packed up the kids and moved to Duluth.

A prestigious award

Last June, at the end of his second year in medical school, the American Medical Association Foundation presented Quinn with its prestigious \$10,000 Minority Scholars Award. He was one of only 13 medical students in the country to receive the award, and his nomination included a long list of Quinn’s volunteer activities, including giving many science presentations at Duluth elementary schools and working with Native American high school students and college undergraduates in CAIMH’s summer programs.

In her nomination letter, Dorscher wrote: “Coridon Quinn has a gentle and kind manner, unobtrusive and attentive. It was easy to see that he had the qualities that would make an excellent physician. His rural Oklahoma upbringing exposed him not only to his Cherokee heritage, but also to the difficulties of accessing quality health care.”

Today Quinn feels confident that he’s on the right road. “I’ve had many relatives die of diabetes, alcoholism, and cancer. I feel, as a Native physician, I can help in the treatment and, more importantly, the prevention, of these diseases in our Native communities,” he says.

PHOTO: RICHARD ANDERSON



Coridon has a gentle and kind manner, unobtrusive and attentive. It was easy to see that he had the qualities that would make an excellent physician.

– Joycelyn Dorscher, M.D.

Madison Anderson Following her heart

PATH: From Pennock, Minnesota, to cultural discovery to future physician



PHOTO: JEFF FREY

I feel like I found something to carry with me for the rest of my life, and I want to pass that along to the next generation.

— Madison Anderson

MADISON ANDERSON, a junior at the University of Minnesota, Morris is taking her very first steps along the Indian Health Pathway, participating in programs that will help her enter medical school and become a physician, perhaps on the Fond du Lac Reservation near Duluth, where her mother grew up. But Anderson was a teenager before she knew anything about that.

Born in Pennock, Minn., near Willmar, Anderson moved with her family to the Twin Cities, where she attended a middle school that began offering Indian education programs. That's when Anderson and her family reconnected with her mother's Native roots.

"I feel like I found something to carry with me for the rest of my life, and I want to pass that along to the next generation," Anderson says. "There's something special inside of me."

Learning together

Eager to learn more about her heritage, she enrolled in an Ojibwe language class, fell in love with beadwork, and participated in Native spiritual ceremonies with her uncle. Two years ago, she enrolled in CAIMH's high school program, High School SuperStars, and this summer, participated in NAM.

She enjoyed learning about the subjects that would help her in medical school and reconnecting with some of her High School SuperStars classmates. Learning together and supporting one another in the classes enhanced the entire experience, Anderson says.

A bright future

Her family's first college graduate, Anderson is now participating in the University's Minnesota's Future Doctors program, which will provide her opportunities to learn more about science, math, research, and the process of getting into medical school. It's too early for her to select a medical specialty, but she does know that the Medical School's Duluth campus is her first-choice school because of family ties to the area and the school's support of Native American students.

As a NAM participant this summer, she worked under the direction of current Native American medical students to draw anatomy on a T-shirt—literally and figuratively learning precisely where to find her heart. [MB](#)

Michelle Juntunen is director of medical advancement for the University of Minnesota Medical School, Duluth campus.

WEB EXTRA



See how the Native Americans into Medicine program introduces teens to health careers at www.mmf.umn.edu/mb/caimh.

The Center of American Indian and Minority Health

THE UNIVERSITY OF MINNESOTA'S Center of American Indian and Minority Health (CAIMH) encourages young Native Americans to value education, and it helps those with an interest in medicine retain the unique qualities and belief systems that are the essence of being American Indian while they pursue their education. It encourages students to explore, consider, and prepare for a health professional career through high school, college, medical school, and a fellowship program.

All stages of the Indian Health Pathway include academic monitoring, cultural competency, experiential and service learning, research, and professional development within the context of the American Indian world view.



Currently, the pathway includes:

High School SuperStars, a summer program for high school students.

Native Americans into Medicine, which prepares college undergraduates for the rigorous process of entering medical school.



Medical student support, which provides resources and encouragement to help students succeed once they begin medical school.

The results are excellent: The University ranks third among the nation's colleges and universities in the number of Native American alumni practicing medicine.



Learn more about the program at www.aimh.umn.edu.

CAIMH BY THE NUMBERS

24

Years since the Center of American Indian and Minority Health was established by the Board of Regents

2

Native Americans in the first entering class of Duluth's medical education program

145

Native American students who have graduated from the Medical School since 1976

3

Medical School's national ranking in graduating Native American students

To find out how to support the Center of American Indian and Minority Health, contact Holly McDonough Gulden at 612-625-8758 or h.gulden@mmf.umn.edu.

Alumni Spotlight | Scott Augustine, M.D.

Using capitalism for good

SCOTT AUGUSTINE, M.D., has built a career out of being skeptical.

“I question most things,” says Augustine (Class of 1979). “Instead of trying to do what everybody’s always done, what’s a better way of doing this?”

All of that questioning has made Augustine, a self-described “philosophical heretic,” a successful inventor and entrepreneur. Now founder and CEO of Augustine Biomedical + Design, Augustine holds about 150 patents. There’s not enough room in the entry space of his Eden Prairie office building — vaulted ceilings and all — to display the full collection of patent plaques.

But that’s OK with Augustine. He’d rather his company be little than big. In fact, he left his first company, Augustine Medical Inc., in 2003, partly because it got too big and he didn’t really like being in charge. (He sold the company to Citigroup Venture Capital in 2004.)

Augustine Biomedical + Design now employs about 25 people, including Augustine’s wife, Susan, two of their

three sons, and many of the best thinkers from his first company, he says.

“I am fortunate in that I have been able to surround myself with really good people,” he says. “That’s what enables you to do whatever you want to do. When you’re working by yourself, you don’t get very far.”

Finding a better way

Augustine says he has been a tinkerer his whole life. When he decided to become a doctor, he had planned to quit tinkering and focus on medicine.

But as he completed his anesthesiology residency in the U.S. Navy, he found himself using equipment that simply didn’t work.

“It turned on and off just fine, but it didn’t actually do what it was supposed to do,” he says.

Patient warming devices fit in this category. When he was in medical training, Augustine says, very little was known about patients being cold during surgery. Doctors knew that patients *got* cold, but many of them — including

Augustine — thought patients didn’t remember it.

But one evening he got cornered at a party and berated about how uncomfortable it was to wake up freezing and with chattering teeth.

So Augustine started looking for a better way. Soon he had invented the Bair Hugger,[®] a special heated blanket used to keep people warm during surgery.

As an added benefit, warming helps to prevent unintended hypothermia, which, doctors now know, increases a patient’s risk of wound infection and even death after surgery.

Today warming is a standard practice in operating rooms throughout the world.

“It’s a real change in practice,” Augustine says. “I’m proud of that.”

Beneficiaries of business success

In addition to the Bair Hugger,[®] Augustine has developed devices to address chronic wound care, allergy and asthma, core temperature measurement, and line infections, among others.

PEACE HOUSE AFRICA: A PLACE FOR ORPHANS TO LEARN AND EXCEL

WEB EXTRAS



See media coverage and view a photo slideshow about Peace House Africa at www.mmf.umn.edu/mb/peacehouse.

Scott and Susan Augustine could not ignore the AIDS pandemic in Africa and the orphans it was leaving behind.

The son of a missionary, Scott Augustine had spent much of his childhood in Tanzania. The couple also spent six months in Liberia working in a jungle hospital when Scott finished medical school early. (Susan was a nurse.)

As the AIDS pandemic was taking its enormous toll decades later, the Augustines gathered some friends and together founded Peace House Africa

in 2000 to help care for orphans in Tanzania, including those whose parents had died of AIDS. (The nonprofit is now housed in the space above the lobby of Augustine Biomedical + Design in Eden Prairie.)

At first the organization took care of these children and placed them in local schools. But there were obstacles.

“There’s only room for 10 percent of Tanzanian kids to go to secondary school,” Augustine explains.

Alumni Connections

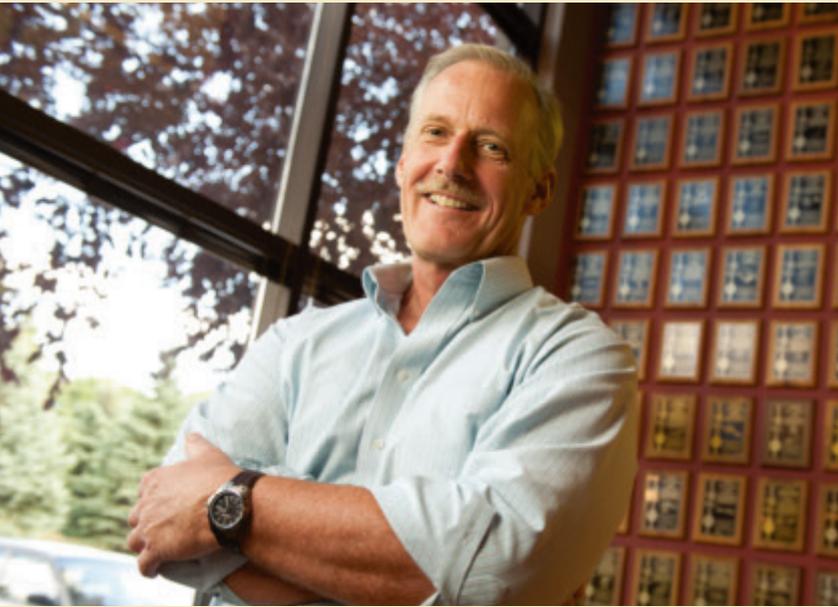


PHOTO: SCOTT STREBLE

Augustine Biomedical + Design's lobby showcases many of the patent plaques belonging to Scott Augustine, M.D.

So original were these products that *Inc.* magazine in 2002 named Augustine Medical Inc. the most innovative small company in America.

Augustine's success inspires him to help others. He and his wife have created the Scott D. and Susan D. Augustine Biomedical Engineering Research Fellowship to support University of Minnesota medical students who are interested in inventing as well (see related profile on page 30). They also

have started a nonprofit called Peace House Africa to house and educate orphans in Tanzania (see sidebar).

"What I'm trying to do is blend capitalism with philanthropy," he says.

To recognize his many achievements, the University presented Augustine with its prestigious Outstanding Achievement Award on October 19.

Augustine says he's just happy to be making a difference. He loved practicing medicine, but he found something he

When you practice medicine, you help one person at a time. And it feels good. But what I do now ... it gets leveraged by millions. So that really can make you feel good. – Scott Augustine, M.D.

loved more when he fell into biomedical engineering. And he has no regrets about making the switch.

"When you practice, you help one person at a time. And it feels good. But what I do now—I don't know the patients, and I don't actually see who the product is helping—but it gets leveraged by millions," he says. "So that really can make you feel good." ^{MB}

By NICOLE ENDRES, managing editor

To solve that problem, the group built its own school with room enough for 650 kids.

"It's absolutely gorgeous," Augustine says proudly. "And if I might brag a little bit, we've only taken the national exams twice, but the first year we were ranked 19th and the second year we were ranked 10th out of 300 and some schools. ... Our goal is to have our school be the top-ranked school in the country."



PHOTO: COURTESY OF PEACE HOUSE AFRICA

A Peace House Africa volunteer works with students in the classroom.



President's Column

Connecting with students in style

IT'S NOT OFTEN that we in the medical profession interact with the fashion industry. Last spring, however, fourth-year University of Minnesota medical student Phillip Radke teamed up with students in the College of Design to put on a one-of-a-kind fundraiser called "Scrubbed into Fashion."

In this well-attended runway show, medical students modeled stylish outfits created by design students that were then judged by a panel of local experts. The catch? All of the outfits were made out of scrubs! The proceeds from the event—an impressive \$10,000 for this first-of-its-kind endeavor—were donated to Smile Network International, a Minnesota-based charity that funds surgeries for impoverished children in developing countries to repair birth defects, with a focus on cleft lips and cleft palates.

The Medical Alumni Society was proud to cosponsor the event, which offered a fun, creative way to raise money for a worthy cause while bringing together alumni and students. It also was quite a thrill to see today's medical students successfully take on such an inventive philanthropic initiative. Students are putting together a second "Scrubbed into Fashion" show this spring, so watch for more information at www.smilenetwork.org and z.umn.edu/masevents.

Alumni and students have had many other opportunities to connect in the past several months as well. This year, for the first time, alumni were formally invited to the White Coat Ceremony, a powerful event at which incoming medical students first don their clinical lab coats and



Utility met style at Scrubbed into Fashion.

pledge their dedication to professionalism and to the esteemed doctor-patient relationship. And at this fall's Alumni Weekend, alumni had the opportunity to eat breakfast with medical students and learn about their individual research accomplishments at the medical student poster session.

Attending events like these is a great way to make meaningful connections with our students. As always, we welcome and appreciate your involvement.

Best regards,

Martin J. Stillman, M.D., J.D.

Class of 1997

President, Medical Alumni Society

PHOTO: COURTESY OF MINNEAPOLISNIGHT.COM

GET INVOLVED

Looking for ways to interact with medical students and reconnect with your fellow alumni? The Medical Alumni Society (MAS) has many opportunities to help you stay connected and make a difference.

STUDENT/ALUMNI EVENTS

Join students and alumni for a hearty breakfast on Thursday, November 10. Please visit www.mmf.umn.edu/alumni to learn more about this gathering and the many others we're planning.

REUNION VOLUNTEERS

Alumni Weekend 2012 takes place September 20–22. MAS is looking for alumni from the classes of 1947, 1952, 1957, 1962, 1972, 1982, 1987, 1992, and 2002 to help plan their reunions and encourage classmates to attend.

GIVE

From supporting students to advancing research and improving care, your financial support is more important than ever. Do what you can to make a difference, and make a gift today.

To sign up for an event or for more information, visit www.mmf.umn.edu/alumni or contact Katrina Roth at k.roth@mmf.umn.edu or 612-625-0336.

Redefining the term ‘shrink’

Alumna and colleagues write about modern-day psychiatry

Broke your leg? You’ll want to see an orthopaedist, of course. Experiencing cloudy vision? Call your ophthalmologist.

Having trouble sleeping, lost your energy and appetite? Well, you could call a psychiatrist ... or a psychologist, counselor, social worker, therapist, or even a personal “coach.”

A new book, *Shrink Rap: Three Psychiatrists Explain Their Work*, explains the sometimes fuzzy distinctions between these professionals and what they do.

Specifically, the authors, University of Minnesota Medical School alumna Annette Hanson, M.D. (Class of 1988), Dinah Miller, M.D., and Steven Roy Daviss, M.D., seek to clarify the role of the clinical psychiatrist.

Through the use of fictional doctors and patients—used to protect confidentiality—the book highlights common experiences in psychiatry, disagreements in the field, and ideas about the future of modern-day psychiatry.

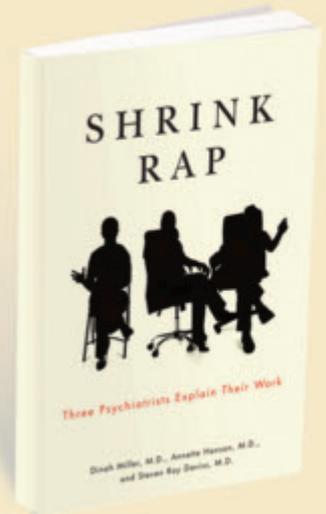
Hanson and her colleagues became collaborators more than five years ago, when they started a blog about psychiatry for health professionals. “We got a much broader discussion going with the Internet community at large,” she says.

After publishing the book, Hanson and her coauthors have begun writing columns in industry publications, such as *Clinical Psychiatry News* and *Psychology Today*. “It’s taken off surprisingly well,” she says.

A forensic psychiatrist, Hanson treats prisoners and conducts pretrial sanity evaluations in Maryland, where she lives, but she says that she still has strong ties to Minnesota.

“I have fond memories of the University of Minnesota Medical School,” Hanson says, adding that Thomas Mackenzie, M.D., her attending during her psychiatry rotation in medical school, inspired her career. “I was introduced to psychiatry and I never looked back.” [\[MB\]](#)

By ROBYN WHITE, associate director of Editorial Services, Minnesota Medical Foundation



WEB EXTRAS



Hear an NPR interview with the authors at www.mmf.umn.edu/mb/shrinkrap or visit their blog at psychiatrist-blog.blogspot.com.

Another first: Duluth alum takes on role as assistant dean

“I feel both personal pride and increased responsibility—an ownership of the curriculum for these students,” says Alan Johns, M.D., M.Ed., of this year’s incoming medical students. “I want them to become excellent practicing physicians, and this is their first step.”

Johns (Class of 1976) is taking his first steps, too, as the new assistant dean for medical education and curriculum at the Medical School, Duluth campus. He replaces Richard Hoffman, Ph.D., who left that role in anticipation of his retirement in 2012.

The new job is another in a series of “firsts” for Johns, who was one of the first 24 students—and one of the first

Native Americans—to attend the University of Minnesota Medical School, Duluth campus when it opened in 1972.

Johns has practiced internal medicine at St. Mary’s-Duluth Clinic Health Care System (now Essentia Health East) since 1981 and began teaching clinical medicine in 1982 as an assistant professor in the Department of Family Medicine and Community Health. He received his master’s degree in education in 2009 from the University of Minnesota, Duluth as well.



Alan Johns, M.D., M.Ed.

Medical students have selected Johns as Clinical Teacher of the Year multiple times. In 1998 the Lake Superior Medical Society named him Educator of the Year, and he was the first to receive Duluth Clinic Foundation’s Excellence in Education Award.

Johns says he plans to build on Hoffman’s accomplishments but

adds, “I also want to expand how we evaluate our educational effectiveness. Simply put: What works, what doesn’t work, and why?” [\[MB\]](#)

'Father of chemoprevention'

Longtime faculty member receives national award for pioneering cancer prevention research

AHEAD OF THE CURVE, Medical School alumnus Lee Wattenberg, M.D., first recognized in 1965 that certain chemical compounds improved disease prevention in animals, a discovery that helped launch the field of chemoprevention — and his own illustrious career.

A year later, he published a paper in the journal *Cancer Research* that laid the groundwork for research into chemopreventive compounds and coined the term “chemoprophylaxis” — the prevention of disease by chemical agents.

In recognition of these and many other achievements, Wattenberg, a professor at the Masonic Cancer Center, University of Minnesota, last spring received the American Association of Cancer Research (AACR) Award for Lifetime Achievement in cancer prevention research. The AACR states that it is the world's largest and oldest scientific organization focused on cancer research.

The Class of 1950 alumnus has earned many awards, authored more than 150 scientific publications, and served as president of the AACR.

He has also served the University as a faculty member for more than 60 years and is responsible for encouraging other esteemed scientists to study chemoprevention.

“His lifelong work in this field has inspired scores of scientists to dedicate their energies and careers to preventing or delaying the onset of cancer,” says Margaret Foti, Ph.D., M.D., AACR's chief executive officer.

Stephen Hecht, Ph.D., a professor and program leader in the Masonic Cancer Center's Carcinogenesis and Chemoprevention Research Program, says he, like many others, was influenced by Wattenberg's work. “Lee Wattenberg has been making superb contributions to this field for the past 50-plus years,” Hecht says. “His work has had a huge impact on strategies for cancer prevention.”

Continuing his legacy, Wattenberg is currently working to identify agents for preventing carcinogen-induced lung cancer. 



Lee Wattenberg, M.D.

Five alumni to be honored

FIVE UNIVERSITY OF MINNESOTA Medical School alumni will be honored for their work in the service of the medical profession at a banquet on Friday, October 28, at the University of Minnesota's McNamara Alumni Center.

HAROLD S. DIEHL AWARD

The lifetime achievement **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.



JOHN H. KERSEY, M.D.

As founding director of what is now known as the Masonic Cancer Center, University of Minnesota, Kersey has not only proven himself as a compassionate doctor and researcher but also as a skillful listener who excels at

bringing people together to work toward a common goal. The forward-thinking Kersey, a 1964 Medical School alumnus, also led the team that performed the world's first successful bone marrow transplant for treating lymphoma. Since he stepped down as Masonic Cancer Center director in 2007, he has returned to the lab to pursue his lifelong research into the causes of and cures for acute leukemia and lymphoma.



MARK E. NESBIT JR., M.D.

Described by his peers as an astute clinician, researcher, teacher, and advocate, Nesbit is a pioneer in the treatment of acute leukemia. His work has set the standard of care for children who have leukemia — one that

has been used as a model for treating other pediatric and adult cancers as well. Nesbit, who completed his residency and fellowship training at the University of Minnesota in the 1960s, also served as the first board chair of Children's Cancer Research Fund, a nonprofit organization that has invested nearly \$60 million in pediatric cancer research at the University.

for outstanding achievements

DISTINGUISHED ALUMNI AWARD

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.



DONALD R. SCHIMNOSKI, M.D.

A 1946 Medical School graduate, Schimnoski has tirelessly and compassionately served the Three Rivers, Mich., community as a family practitioner since 1957. The 90-year-old Schimnoski, known by many as

“Dr. Don,” still sees patients at his office, the hospital, and even at their homes, and he has no intention of retiring. A great listener, superb diagnostician, and enthusiastic supporter, Schimnoski continues to act as a mentor to new health professionals and encourages all people to pursue their dreams.



PAUL A. SEVERSON, M.D.

Severson’s career can be characterized as one of service — to his alma mater, to his local community, and to the people of Haiti. A 1978 graduate of the Medical School, Severson is president of Project Haiti, Inc., a

charitable nonprofit organization he founded in 1992 that provides humanitarian relief to the impoverished people of rural Haiti. He codirects the Minnesota Institute for Minimally Invasive Surgery at Cuyuna Regional Medical Center in Crosby, Minn., and also directs a surgical fellowship. He makes time to teach at the Medical School’s Duluth campus, where he started his medical education, and is a clinical instructor for the school’s Rural Physician Associate Program.

ALUMNI PHILANTHROPY AND SERVICE AWARD

Additionally, for the second time, the Minnesota Medical Foundation will present its **Alumni Philanthropy and Service Award** to an alumnus who has made significant contributions to medicine and to the Medical School through philanthropy.



MARTIN A. SEGAL, M.D.

A member of the Medical School Class of 1944, Segal has been a loyal benefactor of the University since 1979. He has supported medical students through the creation of the Martin A. Segal Family Scholarship,

and he helped to establish the Minnesota Psychiatric Society’s Gloria Segal Award in Psychiatry in recognition of his late wife’s significant contributions to the care of the mentally ill. Dr. Segal, who retired in 1992, spent the last 36 years of his career as a pathologist at Methodist Hospital in St. Louis Park, Minn. He also has committed to establish the Gloria Segal Chair in Psychiatry.

For a complete list of past award winners, visit www.mmf.umn.edu/alumni/awards.

Scholarship Winner | Robin Brusen

Building a bridge—and a few other handy devices

FOURTH-YEAR MEDICAL STUDENT

Robin Brusen is a problem solver.

While earning his bachelor's degree in biomedical engineering at Northwestern University, he and a group of fellow students were charged with finding a quick, easy, cheap way to monitor premature infants in rural South Africa for sleep apnea.

They rigged up a prototype that would buzz if it couldn't sense the baby's breathing and then tested it on balloons in their college laboratory. They used the device's deflection sensor to recharge its own battery.

"To actually see it working in the way you had intended it to work, it's a pretty amazing feeling," says Brusen, who is from Woodbury, Minn.

He wants more of that feeling. But he also wants to be on the front lines, helping others.

"As an engineer, you get to build all of these really interesting, cool therapies and devices, but you don't get to see them come to full action. You build them... then you hand them off to the physicians to actually use them to help people," Brusen says.

After concluding that his future was in medicine, Brusen naturally was drawn to the University of Minnesota Medical School's dual-degree program in medicine and biomedical engineering.

The program, which allows students to complete both their M.D. and M.S. degrees in five years, is designed to prepare new physicians as leaders

and "bridge builders" between medicine and technology in the ever-evolving biomedical device field.

"I'd like to figure out ways that we can take existing therapies, make them work equally well, but at a fraction of the cost. There have to be ways to make these devices cheaper. That's one of the things we learned doing this sleep apnea monitor," Brusen says. "You can basically re-create something that does the same thing but is much simpler and much less expensive."

Rare opportunities

Through the dual-degree program, Brusen found stimulating work at the University's Visible Heart Laboratory under the direction of Paul Iazzo, Ph.D. The lab tests biomedical devices that are nearing clinical use, says Brusen, who found it exciting to experiment with products that could be on the market in just a year or two.

For his master's project in the Visible Heart Laboratory, Brusen built an apparatus that cooled the heart and perfused it with a preservative solution, in hopes of extending the viability of donor hearts for transplant. (Right now, they can be preserved only four to six hours before the transplant for optimal outcomes.)

That project had "modest success," he says. "It's not something you'd want to transplant into somebody, but it's a step in the right direction."

And Brusen found that his product design and development class, offered jointly by the engineering program and



PHOTO: SCOTT STREBLE

One of two current University students pursuing a dual degree in medicine and biomedical engineering, Robin Brusen sees his future in academic medicine.

I'd like to figure out ways that we can take existing therapies, make them work equally well, but at a fraction of the cost.

There have to be ways to make these devices cheaper.

— Robin Brusen

the Carlson School of Management, provided particularly useful real-world experience in bringing an idea to the market in 2011 — “a very, very complicated and expensive process,” he says.

As Brusen completes his last year of medical school, he is thankful for the many awards he has received — the Dr. William G. and Rosemary Kubicek Scholarship, the Scott D. and Susan D. Augustine Biomedical Engineering Research Fellowship, and the Lee and Bonnie Espeland Scholarship — to help him finance his five years of professional education.

“My scholarship benefactors have been with me every step of the way, easing my financial burden and allowing me to focus on helping others,” he says.

Bridging the gap

Brusen sees his future in academic medicine, where he'll be able to treat patients but still conduct research. He's now applying to internal medicine residency programs because the field offers so many directions for growth, he says.

“I see a lot of parallels between [internal medicine] and engineering. It's a lot of problem solving,” Brusen says. “The process by which we come up with diagnoses is very similar to engineering design, where we start by brainstorm-

ing, coming up with reasons why some work and some don't, and collecting more information to choose the best one. The goals and degrees of certainty are different, but the essentials of the process are almost exactly the same.”

In the end, Brusen hopes that understanding how a device works from an engineering standpoint will inform his decisions about whether or how to use it with patients.

“In this day and age, there's so much technology — there's no way one person can totally understand everything,” he says, “but I guess it would be nice to bridge that gap a little bit.”

At the suggestion of laizzo, his master's program adviser, Brusen is keeping a small notebook to record the unmet clinical needs he comes across in practice and the little tasks or processes he thinks could be improved. He'll review those ideas every so often, and when the timing is right, he'll pursue them.

And though Brusen hasn't earned his M.D. yet, he's already got a few ideas in that notebook. 

By NICOLE ENDRES, managing editor

STANDING OUT FROM THE STANDOUTS

Of the 986 students currently enrolled in the Medical School, a few dozen have chosen to pursue another advanced degree simultaneously through one of the U's six combined degree programs.

55 M.D./Ph.D.

8 M.D./M.P.H.

2 M.D./M.S.

1 M.D./M.B.A.

1 M.D./M.H.I.*

0 M.D./J.D.

* Master's of Health Informatics

To find out how you can support Medical School scholarships, contact Teri McIntyre at the Minnesota Medical Foundation, 612-625-5976, 800-922-1663, or t.mcintyre@mmf.umn.edu.

In Memoriam

NEVA M. ABBOTT, M.D., M.P.H., Class of 1961, Hollywood, Fla., died April 25 at age 74. Dr. Abbott served as a missionary, taught at St. Cloud State University, and established a program to train physician assistants. She was preceded in death by her husband, Dr. Frank Gonzalez, and is survived by 1 child and 1 step-grandchild.

CAROL L. ANDERSON, M.D., Class of 1954, Oakland, Calif., died June 13 at age 82.

WALLACE R. ANDERSON, M.D., Class of 1946, Del Mar, Calif., died July 10 at age 86. Dr. Anderson practiced medicine in Austin, Minn., and served as medical director of Boynton Health Service at the University of Minnesota. He was preceded in death by his wife, Elaine. He is survived by 2 children and 3 grandchildren.

ELIZABETH L. ARONSEN, M.D., Class of 1985, Denver, Colo., died April 11 at age 56. Dr. Aronsen was an intensive care specialist. She is survived by her mother, 4 siblings, and nieces and nephews.

RONALD E. BLACKMORE, M.D., Class of 1968, St. Paul, Minn., died May 5 at age 72. Dr. Blackmore was a pathologist. He is survived by his partner, Bill Schaefer; 3 children; 3 grandchildren; and former wife, Bonnie Marsh.

ARTHUR BOLTER, M.D., Class of 1951, San Ramon, Calif., died April 10 at age 84. Dr. Bolter practiced pediatrics in California, helped to establish a drug abuse treatment center, and was medical director of an eating disorder program. He is survived by 3 children and 4 grandchildren.

MARY S. BOYDEN, M.D., Class of 1938, Lawrence, Kan., died April 25 at age 96. Dr. Boyden was an obstetrician, pediatrician, pediatric allergist, and educator in Lawrence. She was preceded in death by her parents and a sibling and is survived by several family members.

JAMES E. CORBETT, M.D., Class of 1965, Minneapolis, died May 16 at age 72. Dr. Corbett was a physician in the U.S. military and a diagnostic radiologist at Park Nicollet Medical Center. He was preceded in death by 1 child and is survived by his wife, Gisela, and 3 children.

EVAN S. ELLISON, M.D., Class of 1950, Oro Valley, Ariz., died April 17 at age 83. Dr. Ellison practiced orthopaedic surgery in Minneapolis. He is survived by his wife, Syrile; 5 children; and 5 grandchildren.

GEORGE B. EWENS, M.D., Class of 1953, Virginia, Minn., died January 14 at age 85. Dr. Ewens was a dermatologist in Virginia and past Minnesota president of the American Academy of Dermatology. He is survived by his wife, Carol; 4 children; and 5 grandchildren.

WILLIAM F. FELLER JR., M.D., PH.D., Class of 1954, Bethesda, Md., died July 8 at age 85. Dr. Feller was a breast cancer surgeon and professor at Georgetown University Hospital. He is survived by his wife, Margaret; 2 children; and 5 grandchildren.

GERALD FINE, M.D., Class of 1946, Grosse Pointe Park, Mich., died April 9 at age 87. Dr. Fine practiced pathology. He is survived by 2 children and 2 grandchildren.

WILLIAM A. FOLEY, M.D., Class of 1956, Edina, Minn., died May 21 at age 80. Dr. Foley practiced and taught pathology. He is survived by his wife, Eileen; 5 children; and 14 grandchildren.

ALFRED M. FREEDMAN, M.D., Class of 1941, New York, died April 17 at age 94. As president of the American Psychiatric Association, Dr. Freedman helped end the definition of homosexuality as a mental illness. He also chaired New York Medical College's psychiatry department and established drug treatment programs in New York City. He is survived by his wife, Marcia; 2 children; and 3 grandchildren.

EDWIN M. GORDON, M.D., Class of 1955, Mill Valley, Calif., died March 15 at age 83. Dr. Gordon was an obstetrician and

gynecologist. He helped open the Kaiser clinic and hospital in Terra Linda, Calif. He was preceded in death by his wife, Josephine. He is survived by 4 children and 11 grandchildren.

CHRISTIAN P. HALD, M.D., Class of 1951, Ashland, Ore., died January 18 at age 90. Dr. Hald established a family practice in Ashland and served as chair of the medical staff and director of emergency services at Ashland Community Hospital. He was preceded in death by his wife, Jacque Jean. He is survived by 4 children and 8 grandchildren.

LOIS M. HEANEY, M.D., Class of 1988, Phoenix, Ariz., died May 2 at age 64. Dr. Heaney worked as a clinical researcher at the University of Minnesota, practiced with Hennepin Faculty Associates in Minneapolis, and served as head hospitalist at Arizona Medical Clinic in Phoenix. She is survived by 2 children and 3 grandchildren.

JOHN A. HIATT, M.D., Class of 1959, Minneapolis, died January 7 at age 78. Dr. Hiatt practiced medicine in Minneapolis. He is survived by his wife, Bonnie; 3 children; 3 stepchildren; and 9 grandchildren.

LEONE R. HOGAN, M.D., Class of 1978, Apple Valley, Minn., died March 27 at age 58. Dr. Hogan practiced family medicine and psychiatry. She is survived by 3 children.

MARK R. HRUBY, M.D., Class of 1979, Mora, Minn., died April 14 at age 57. Dr. Hruby practiced family medicine in Mora. He is survived by his wife, Renee, and 3 children.

JOHN T. HURLY, M.D., Class of 1942, Denver, Colo., died April 14 at age 83. Dr. Hurly cofounded Internal Medical Associates in Billings, Mont. He was preceded in death by his wife, Ruth, and is survived by 4 children, 13 grandchildren, and 2 great-grandchildren.

JAMES R. KENT, M.D., Class of 1953, Colorado Springs, Colo., died April 17 at age 85. Dr. Kent practiced pediatrics in Colorado Springs. He was preceded in death by his

Alumni Connections

wife, Carol Schwake, and is survived by 4 children, 9 grandchildren, and 3 step-grandchildren.

EDWARD M. LAFOND, M.D., Class of 1944, Minneapolis, died March 10 at age 91. Dr. LaFond worked at the VA Hospital in Minneapolis and founded St. Cloud Orthopedic Associates. He was preceded in death by his wife, Laura Jane, and 1 child. He is survived by 11 children, 13 grandchildren, and 2 great-grandchildren.

JACK H. LEVERSEE, M.D., Class of 1951, Seattle, Wash., died April 7 at age 84. Dr. Leversee started a family practice, served as chief of staff at Overlake Hospital in Bellevue, Wash., and taught at the University of Washington School of Medicine. He is survived by his wife, Joan; 3 children; and 4 grandchildren.

JULIE A. LINDAHL, M.D., Class of 1977, Minnetonka, Minn., died January 12 at age 60. Dr. Lindahl was a gastroenterologist, pediatrics professor at the University of Minnesota and Wright State University in Ohio, and medical director at United Health Group. She is survived by her husband, Phillip Cykana, and 1 child.

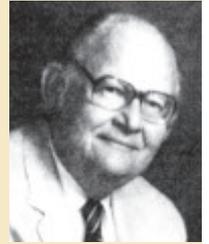
CATHERINE BURNS LUSH, M.D., Class of 1943, Glencoe, Minn., died June 13 at age 94. She was preceded in death by her husband, Clifford. She is survived by 2 children, 1 stepchild, and several grandchildren.

WILLIAM C. NELSON, M.D., Class of 1947, Grand Forks, N.D., died April 2 at age 86. Dr. Nelson practiced internal medicine, served as chief of staff and president of the executive board at St. Michael's Hospital, and taught at the University of North Dakota's medical school. He is survived by his wife, Ruth Anne; 5 children; and 8 grandchildren.

EUGENE T. O'BRIEN, M.D., Class of 1958, San Antonio, Texas, died March 5 at age 78. Dr. O'Brien was chief of orthopaedics and hand surgery at Wilford Hall Medical Center in Texas. He is survived by his wife, Patricia; 8 children; and 16 grandchildren.

JOHN I. COE, M.D., Class of 1944, Bloomington, Minn., died March 26 at age 92. Minnesota's first medical examiner and the Midwest's first board-certified forensic pathologist, Dr. Coe was internationally known for his studies on how body chemistry changes after death. He was part of a congressional select committee that answered forensic questions

about the deaths of President John F. Kennedy and Rev. Martin Luther King Jr. He also was Hennepin County's medical examiner, chief of pathology at Minneapolis General Hospital (now Hennepin County Medical Center), and professor at the University of Minnesota Medical School. Dr. Coe was preceded in death by his wife, Myrtle.



JOHN S. RYDBERG, M.D., Class of 1957, Roseville, Minn., died February 22 at age 79. Dr. Rydberg practiced anesthesiology. He was preceded in death by his wife, Esther, and is survived by 3 children and 2 grandchildren.

HAROLD M. SCHNEIDMAN, M.D., Class of 1947, San Francisco, Calif., died January 21 at age 86. Dr. Schneidman had a private practice in San Francisco, taught dermatology at Stanford University, and chaired California Pacific Medical Center's Department of Dermatology. He is survived by his wife, Linda; 6 children; and 5 grandchildren.

GREGORY E. SEFTICK, M.D., Class of 2007, Columbia Falls, Mont., died April 16 at age 31. Dr. Seftick specialized in emergency medicine and was an attending physician at St. Joseph's Hospital in Buckhannon, W.Va. He is survived by Megan Webb, his parents, 1 sibling, 1 grandparent, and other relatives.

GEORGE R. SMITH, M.D., Class of 1946, Hutchinson, Minn., died July 3 at age 91. Dr. Smith helped establish the Rural Physician Associate Program at the University of Minnesota, cofounded the Hutchinson Medical Center, and served as chief of staff at Hutchinson Community Hospital. He was preceded in death by his wife, Betty. He is survived by 5 children and 9 grandchildren.

ERNEST J. SOWADA, M.D., Class of 1949, St. Paul, Minn., died April 29 at age 97. Dr. Sowada was a family practitioner in St. Paul. He was preceded in death by 1 child.

He is survived by his former wife, Dr. Dorothea Sowada; 5 children; 9 grandchildren; and 5 great-grandchildren.

DONALD E. TAYLOR, M.D., Class of 1944, Juneau, Alaska, died May 11 at age 90.

DENO J. WEDES, M.D., Class of 1946, St. Paul, Minn., died July 28 at age 87. Dr. Wedes was a family physician. He was preceded in death by 1 child. He is survived by his wife, Caryl; 5 children; and 9 grandchildren.

ROBERT K. WEST, M.D., Class of 1951, Columbia Falls, Mont., died May 29 at age 89. Dr. West established a family practice in Montana and worked in emergency medicine in California. He was preceded in death by his wife, Billie, and is survived by 3 children, 11 stepchildren, 7 grandchildren, 30 step-grandchildren, and 1 great-grandchild.

ELTON G. WING, M.D., Class of 1966, Slayton, Minn., died March 10 at age 71. Dr. Wing practiced family medicine in Sleepy Eye and Slayton, Minn. He is survived by his wife, Linda, and 2 stepchildren.

OSMUND A. WISNESS, M.D., Class of 1945, Savage, Minn., died May 9 at age 91. Dr. Wisness practiced general medicine and anesthesiology. He was preceded in death by his wife, Jane, and is survived by 5 children, 7 grandchildren, and 1 great-grandchild.



Patients come to University hospitals from near and far, as they did a century ago. In 1911, Elliot Memorial Hospital treated patients from all but six Minnesota counties.

WEB EXTRA



View a slideshow of historical photos from Elliot Memorial Hospital at www.mmf.umn.edu/mb/Elliot.

One hundred years ago ...

With the anniversary of Elliot Memorial Hospital's opening, the U celebrates a century of leading-edge medical education

In 1911, life expectancy was 47 years, and more than 95 percent of births took place at home. □ The leading causes of death were pneumonia and influenza, and antibiotics were a distant dream. □ Even the way medicine

was taught seems completely foreign to us now, with the majority of doctors back then having had no university training.

That was all about to change. The University of Minnesota was on the pioneering edge of a new era of standardized medical instruction. With a gift of \$115,000 from the family of a Minneapolis doctor whose real estate holdings proved to be quite valuable, the University's first independent teaching hospital was born.

In what was then named Elliot Memorial Hospital, students learned the latest medical techniques while providing free care to the needy.

The entrance to Elliot hospital sat approximately at the end of what is now

the "C" corridor of the Mayo building. Over time, as the hospital expanded, Elliot was surrounded by new wings devoted to cancer, pediatrics, and other specialty care. Eventually, with the building of Mayo Memorial in the 1950s, the exterior of Elliot became barely visible, as newer and more modern facilities eclipsed its façade.

Elliot was made possible when a group of community donors, the state Legislature, and the University came together to build a facility that would closely connect patient care to the University's mission to educate health care providers for the state.

Through her will, Mary Elliot contributed \$115,000 of the \$155,000 required

The evolution of University of Minnesota hospitals

1911

Elliot Memorial Hospital opens

1924–25

Todd Memorial Hospital, dedicated to eye, ear, nose, and throat practice, is built and opens

1925

George Chase Christian Memorial Cancer Hospital opens

1928–29

Eustis Children's Hospital (originally called the Minnesota Hospital and Home for Crippled Children) is built and opens

1936

A psychopathy hospital opens, built as additional floors to Todd and Christian wings



Elliot Memorial Hospital

A Look Back



LEFT What started out as a 115-bed hospital with three focus areas — internal medicine, surgery, and obstetrics — has evolved into the University of Minnesota Medical Center, Fairview, a multi-location facility with nearly 2,000 beds and dozens of specialties.

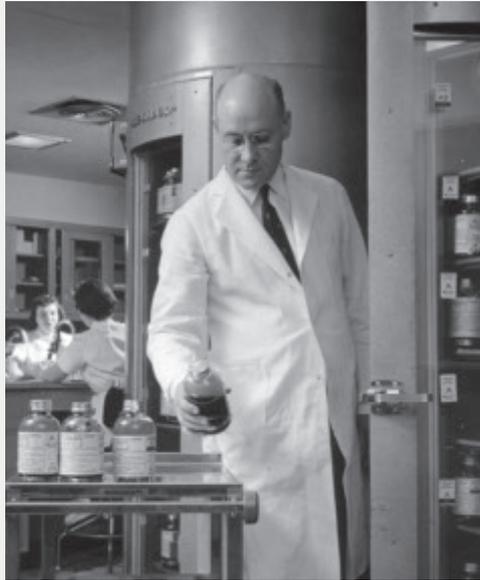
to build the then-modern teaching facility in honor of her husband, Adolphus Elliot, M.D. The remaining \$40,000 came from the state Legislature, which supplied an additional \$44,000 for equipment. Thirty-eight prominent Minneapolis donors contributed the \$42,000 needed to purchase the land.

Elliot Memorial Hospital's first patient was admitted on September 19, 1911.

While much has changed since the construction of this first teaching hospital, the University remains true to its original mission: to be a premier teaching facility serving the community. [MIB](#)

By SARA MARTIN, a writer and editor in the Academic Health Center, and ERIK MOORE, the University of Minnesota's lead health sciences archivist

PHOTOS: UNIVERSITY ARCHIVES



ABOVE Newell Ziegler, M.D., Ph.D., oversaw the hospital's blood bank beginning in the early 1950s.

BALANCING THE BUDGET AT ELLIOT MEMORIAL HOSPITAL IN 1911

\$2.16

Average cost per hospital patient per day, paid for by the University

\$0.17

Average cost of an outpatient visit, also covered by the University

\$7,754

Total medical professional salaries

\$4,354

Total administrative salaries

\$4,056

For medical and surgical supplies, including \$131 for "alcohol, liquors, and wines"

1951
Variety Club Heart Hospital opens

1954
Mayo Memorial Building opens

1964
Children's Rehabilitation Center opens

1958
Masonic Memorial Hospital opens

1986
University of Minnesota Hospitals replacement facility (on the corner of Harvard Street and East River Road) opens

1997
Fairview Health Services consolidates with University of Minnesota Hospitals, leading to the current dual-campus model

2011
University of Minnesota Amplatz Children's Hospital opens on Riverside campus



Daniel Watson, M.D., Kay Johnson, M.D., and Joseph Zunt, M.D., were among those celebrating their 20-year reunion.

WEB EXTRA



See a photo slideshow from Alumni Weekend at www.mmf.umn.edu/mb/reunion.

CLASSES CELEBRATING MILESTONE REUNIONS

1946, 1951, 1956, 1961, 1971, 1981, 1986, 1991, and 2001

A toast to longtime friends at Alumni Weekend

NEARLY 250 MEDICAL SCHOOL alumni and guests returned to the University of Minnesota for Alumni Weekend September 22, 23, and 24. In addition to the classes that were celebrating milestone reunions, Medical School alumni from all classes were invited to take part in the festivities.

At a breakfast with current medical students, alumni heard about how medical school has changed. Today’s students can watch lectures online, for instance, and more than half of them study medicine abroad.

Guests also attended a performance of Hippocrates Café, during which professional actors performed more than 20 vignettes that chronicled physicians’ lives — from meeting their first cadavers in medical school to thanking their last patients.

Alumni celebrating reunions also had a special chance to catch up with longtime friends at their class dinners. An impressive nine members of the Class of 1946, who celebrated their 65th reunion and are mostly nonagenarians, and their guests participated in the event. MB

Because

your gift will make more possible...

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