

# Medical Bulletin

## One world, one medicine

In Uganda, U doctors gain ground  
on HIV/AIDS and malaria



**SPRING 2012** U turns to technology to train combat medics □ Minnesota's Future Doctors take measure  
□ NICU Follow-Up Clinic keeps at-risk babies on track □ U doctors match up with BMT program in India

## 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 920 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.

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UNIVERSITY OF MINNESOTA

Medical School



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## Medical School News

### No longer out of practice

#### Program helps immigrant doctors become physicians in Minnesota

**S**omali-born Liban Hired, M.D., attended medical school in Turkey and served a residency there, specializing in infectious diseases. Then, unable to stay in Turkey or safely return to his homeland, he came to America, the land of opportunity.

Turns out America can also be the land of obstacles, especially when it comes to foreign-trained physicians.

Hired, like an estimated 200-plus immigrant doctors in Minnesota, was unable to get the experience necessary to land a residency here, let alone a license to practice medicine.

So he did the next best thing. Upon arriving in Minnesota, he took on two full-time jobs — working on an assembly line and filling orders — plus a half-time job on weekends. At one point, he was working 96 hours a week.

Not exactly what he went to medical school for.

**We were able to train three physicians at a fraction of what it would cost to train someone from scratch.**

— Will Nicholson, M.D., assistant professor, Department of Family Medicine and Community Health



After an open application process, three initial candidates were selected — all Somali doctors with significant experience, albeit not in America. In 2011 they wrapped up seven months of training — a month of general education, three months of inpatient general medicine, and three months of outpatient clinical work — and then began their residencies.

“We were able to train three physicians at a fraction of what it would cost to train someone from scratch,” says Will Nicholson, M.D., the program’s director and an assistant professor in the Medical School’s Department of Family Medicine and Community Health. Best of all, it helps address a shortage of medical professionals in immigrant communities. “We couldn’t need these people more,” he says.

A second cohort began the program in December. It includes physicians from Somalia, Cuba, Jordan, and Bhutan. “We had a much broader pool of candidates this year, now that the program is more well-known,” Nicholson says.

Some 12 years later, Hired is back on track. He’s in a residency program at North Memorial Medical Center and preparing to serve his community in family practice, thanks to a unique program funded for one year by the Minnesota Legislature and now supported and run by the University of Minnesota.

#### Locked out of the system

The problem for immigrant doctors is something of a Catch-22. To be accepted as medical residents in the United States, they need to meet highly specific prerequisites and have hands-on, clinical experience. But hospitals are hesitant to give them opportunities because of the uncertainty of their résumés; it’s easier to take American and international candidates coming straight out of well-known medical schools.

In Hired’s words, “You cannot get into the system.”

In 2010 Sen. Linda Berglin of Minneapolis sponsored a bill that provided \$150,000 to the University to help prepare immigrant physicians to enter residency programs here.

Will Nicholson, M.D. (center), talks with members of the second cohort of doctors (from left: Khem Adhikari, M.D., Mahamud Jimale, M.D., Adalberto Torres-Gorrin, M.D., and Said al Tawil, M.D.) preparing to enter a residency in Minnesota through a University-funded program.

### An adjustment to the 'machinery'

Nicholson gushes at the thought of helping well-qualified doctors fulfill their calling.

They are all tremendous talents but were being held back by "superficial machinery," he says. "If we can bypass that and get a really good physician back in the system, we all win."

For Hired, it's the difference between being an assistant manager at a blood bank — his most recent job — and putting his medical degree to full use.

"When the University of Minnesota created this program," he says, "it was like a dream come true." MB

By RICK MOORE

## U conducts first clinical test of stem cells expanded by new method

University of Minnesota investigators have opened a Phase I clinical trial designed to test the safety and potency of blood-forming stem cells in umbilical cord blood (UCB) that previously have been multiplied in a new cell-culturing system.

Derrick Kellers, an 18-year-old from St. Louis Park, Minn., who has acute lymphoblastic leukemia, was the first patient to enroll in the study. He underwent his transplant at the University on February 7.

Scientists at the Genomics Institute of the Novartis Research Foundation in San Diego, Calif., recently discovered a low-molecular-weight compound that promotes the expansion of blood-forming stem cells, the parent cells of red blood cells, white blood cells, and platelets.

The U.S. Food and Drug Administration in November approved the initiation of a Phase I clinical trial using this new chemical compound. The University's John E. Wagner, M.D., an internationally recognized pioneer in the field of UCB transplantation, is leading the trial.

UCB, the blood left in a placenta after the birth of a child, is increasingly being used as a source of blood-forming stem

cells for transplant as part of the treatment of children and adults with a variety of life-threatening diseases such as leukemia, lymphoma, and myelodysplastic syndrome.

Expanding the number of UCB stem cells per unit could improve patients' chances of finding a suitable match among the 750,000 UCB units available worldwide and speed up recovery from the transplant. MB



John Wagner, M.D.

PHOTO: COURTESY OF CHILDREN'S CANCER RESEARCH FUND

### THE PROS OF NATIONAL HEALTH CARE REFORM

The Patient Protection and Affordable Care Act will spark widespread health care reform and result in real improvements for patients, ethicist and health policy expert Ezekiel Emanuel, M.D., Ph.D., told his University of Minnesota audience when he delivered the Deinard Memorial Lecture on Law and Medicine at the Humphrey Center in January.

*Hear what the former special adviser to the White House had to say about the urgent need for reform, the challenges, and Minnesota's key role at [www.mmf.umn.edu/mb/emanuel](http://www.mmf.umn.edu/mb/emanuel).*



PHOTO: TONY NELSON

# U of M Physicians opens a comprehensive, integrated clinic for women

A NEW UNIVERSITY OF Minnesota Physicians clinic offers women a convenient health care model that focuses on a comprehensive array of treatment options.

The Women’s Health Specialists Clinic in January opened as a “one-stop shop” for

women looking for a single location for their health care needs. It combines services previously located across the University campus.

Now located in the Riverside Professional Building alongside the University of Minnesota Medical Center, Fairview on the University’s West Bank, the clinic offers health care to women throughout their lifespans. It provides access to obstetrical care, gynecological specialists, and primary-care doctors as well as integrative services including acupuncture, nutritional counseling, and health coaching.

“Our clinic is about the philosophy of health care,” says Carolyn Torkelson, M.D., medical director of integrative care at University of Minnesota Physicians, the group practice for University of Minnesota Medical School faculty members. “It’s about wellness, healing, and being self-empowered to take care of yourself—body, mind, and spirit.”

This multidisciplinary and integrated approach is part of a growing trend.

“It’s really part of a consumer-driven, national paradigm shift to more preventive and integrative care,” says the clinic’s Diana Drake, a women’s health nurse practitioner. “If you want to broaden your health care options, we’re providing those options here.” [MB](#)



PHOTO: DAVID SHERMAN

Leaders at the new clinic include Carolyn Torkelson, M.D., Carrie Ann Terrell, M.D., Ann Forster Page, M.S., C.N.M., and Diana Drake, W.H.N.P.

## MEDICAL SCHOOL PROGRAMS RANK AMONG TOP 10

Three University of Minnesota Medical School programs rank among the top 10 of their kinds, according to the spring edition of *U.S. News & World Report*.

The Medical School’s primary care program ranked third, its rural medicine program ranked eighth, and its family medicine program ranked 10th.

The Medical School was named 17th among medical schools at public universities and 39th overall.

Other schools of the Academic Health Center also were highly ranked this year:

- ☐ College of Pharmacy (3rd)
- ☐ School of Public Health (5th among public universities and 8th overall)
- ☐ College of Veterinary Medicine (9th)
- ☐ School of Nursing (21st)

Also listed among the top in their fields were several of the University’s health sciences programs: health care management (2nd), clinical psychology (6th), community health/nursing (6th), midwifery/nursing (8th), physical therapy (19th), and speech-language pathology (17th). [MB](#)

## Grant to boost U and Mayo Clinic MDS research

University of Minnesota and Mayo Clinic researchers received a \$1.35 million grant from the Minnesota Partnership for Biotechnology and Medical Genomics to combat myelodysplastic syndrome (MDS), a cancer that disrupts the way bone marrow develops blood cells. Every year more than 10,000 people in the United States are diagnosed with MDS, and one-third of them go on to develop leukemia.

The grant will connect promising research at both institutions and foster pilot studies aimed at finding new genetic predictors for MDS as well as new treatments and therapies. The condition can be inherited genetically or result from an event or illness. For unknown reasons, Minnesota’s MDS rates are among the nation’s highest.



## New U plan aims to attract research partners

The University of Minnesota in December launched an initiative aimed at making it easier for businesses to partner with the institution on research projects.

Under the new Minnesota Innovation Partnerships (MN-IP) program, companies that sponsor research at the University will be able to prepay a fee and receive a worldwide patent on the intellectual property. Royalties to the University would kick in only if the intellectual property generates annual sales of more than \$20 million, and the royalty fee would total 1 percent of sales.

To land an exclusive license, a business would pay a fee equal to 10 percent of the cost of the research contract, or \$15,000, whichever is greater.

University leaders expect the new approach to eliminate the complicated research contracts and protracted negotiations that are common features of industry-sponsored research at higher-education institutions.

“We believe that MN-IP will result in a wide range of positive effects on our relationships with industry research sponsors,” says the University’s vice president for research, Tim Mulcahy. “Companies will have a stronger incentive to commercialize technology resulting from University research. And consumers will benefit as these innovations are developed and ultimately make their way to the marketplace.” <sup>[MIB]</sup>

## U, Mayo partnership steps up efforts to conquer diabetes

The grant will fund projects designed to:

- Identify genes that are important in both MDS development and progression into leukemia.
- Test new drugs that contain MDS antibodies to see whether those drugs reduce the number of MDS cells.
- Develop a new clinical trial that tests the feasibility of enhancing patients’ own immune systems by giving them natural killer cells from healthy people to reduce the number of MDS cells.

Both the University of Minnesota and the Mayo Clinic are designated as Myelodysplastic Syndrome Centers of Excellence by the Myelodysplastic Syndromes Foundation. <sup>[MIB]</sup>

The Decade of Discovery, a major initiative of the Minnesota Partnership for Biotechnology and Medical Genomics, has hired David Etwiler as executive director and awarded three research grants totaling \$1.86 million to bring the initiative closer to its goal: finding a cure for diabetes.

Etwiler, former vice president of community affairs and executive director of the Medtronic Foundation, will lead the Decade of Discovery’s operations, including strategy development and execution. He also will engage stakeholders inside and outside the Decade’s partner institutions, Mayo Clinic and the University of Minnesota.

The state-funded grants, awarded by the Decade initiative under the

auspices of the Minnesota Partnership, will support research led by University and Mayo Clinic coinvestigators to create an artificial pancreas, develop anti-obesity drugs aimed at preventing type 2 diabetes, and explore immune-based diabetes treatments.

“Using the resources from the Minnesota Partnership, we expect to see major advances in both diabetes treatment and prevention as a result of this work,” says University endocrinologist and Decade coleader Elizabeth Seaquist, M.D. <sup>[MIB]</sup>

*The Minnesota Partnership for Biotechnology and Medical Genomics is a collaboration of the University, Mayo Clinic, and the state of Minnesota.*

# Global Outreach

LOCATION: Bangalore, India MISSION: Building a cross-continent BMT connection



## A match made in India

U doctor embraces his role initiating a thriving medical partnership with India

International scientific collaboration doesn't happen by accident—especially in India. □ “Working in India is about relationships and treating people well,” says Kumar Belani, M.D., a professor in the University of Minnesota’s

Department of Anesthesiology and assistant vice president of India affairs in the Academic Health Center.

In the past decade, Belani—a native of Bangalore, India—has become a matchmaker, cultivating relationships between University faculty and scientists working in India. His efforts have led to a number of fruitful research collaborations, and in 2011 he received the University’s Global Engagement Award in recognition of his work.

One project that Belani helped to initiate is a flourishing research and clinical care partnership between the University’s world-renowned blood and marrow transplantation (BMT) program and Manipal Hospital in Bangalore.

The project, begun in 2006 and led by Daniel Weisdorf, M.D., professor of medicine and director of the University’s adult BMT program, initially focused on educational and training opportunities but now includes scientific collaborations aimed at improving tissue matching for BMT patients of Indian descent.

### Building a partnership

The idea started when Belani arranged for a group of University of Minnesota physicians to visit Manipal Hospital in 2004. “It’s one of the flagship hospitals in India,” he says. “They had one weakness—they didn’t do bone marrow transplants.”

Following that visit, physicians and nurses from Manipal Hospital visited the University in 2006 to observe its acclaimed BMT practice firsthand.

“They spent time in the BMT unit. They saw the practice, protocols, and setup,” says Belani. These visits, along with regular meetings with Weisdorf via teleconference, helped Manipal Hospital develop transplant protocols.

Using the University program as a model, the hospital created its own BMT unit, which was recently expanded to four rooms and has completed more than 75 transplants since the program began in 2006.

**This matchmaking has turned into a medical exchange, a scientific exchange, to get these projects going, and a clinical exchange with people coming here for treatment.**

— Daniel Weisdorf, M.D.



## Growing research

As he learned about BMT in India, Weisdorf discovered that for people of South Asian descent, there are limited data about HLA haplotype tissue, which is central to tissue-type matching. This lack of information makes it difficult to find a non-family marrow donor match in India.

“We have less success than we would like in finding donors [for people of Indian descent],” Weisdorf says. “A brother and sister have a one-in-four chance of a match, and the chances go down for people who are unrelated.” In comparison, northern or western Europeans have a 75 percent chance of finding a suitable donor.

“This becomes a challenge in India because of the lack of an HLA haplotype tissue registry,” says Belani.

Tissue matching is even more difficult in India, he says, because its people have complex cultural and genetic histories. Also, a number of diseases that could be treated with BMT—such as aplastic anemia or thalassemia—are more common in Indian and Mediterranean populations.

In 2011 Weisdorf received funding from the Academic Health Center and the Indian Council for Medical Research Collaboration to study tissue matching with 12 medical centers in India and the U.S. National Bone Marrow Donor Program, which runs the Be The Match donor registry.

“The collaborating Indian transplant centers are supplying tissue-type data on patients and family members, specifying state of origin, language, and cultural group data,” Weisdorf says. The data will be analyzed this summer. One possible outcome could be the development of a model for an Indian BMT donor registry.

Weisdorf says he wants to answer this question: “Would we be able to find donors more efficiently for Indian patients living in the U.S. if we searched an Indian registry?”




Daniel Weisdorf, M.D., and Kumar Belani, M.D.

## Making it possible

Weisdorf is quick to credit Belani for helping to make the right connections to get this work going and keep it moving. “It doesn’t happen by accident,” he says.

“[Belani] has been very good about helping with the social connections needed to meet people. This matchmaking has turned into a medical exchange, a scientific exchange, to get these projects going, and a clinical exchange with people coming here for treatment.”

Belani, who travels to India several times a year, frequently hosts Indian visitors to the University of Minnesota as well. It’s all part of maintaining good relationships, which help to spur future collaborations and raise the University’s profile abroad, says Belani, who shares credit with Weisdorf and many other colleagues who have helped the project thrive.

“Now almost every scientific place in India knows about the University of Minnesota,” he says proudly. 

By ROBYN WHITE, associate director of editorial services at the Minnesota Medical Foundation

*To support the University’s medical and public health partnership with India, contact Adam Buhr at 612-626-2391 or a.buhr@mmf.umn.edu.*

## COLLABORATIONS IN INDIA

The University of Minnesota’s Academic Health Center and the Indian Council for Medical Research Collaboration in 2011 awarded grants and crucial seed money to fund these joint research projects in India:

- Tissue matching in blood and marrow transplantation
- Cancer and environmental factors
- Asbestos exposure and international research collaboration
- Diabetes and genetics
- Diabetes and environmental factors
- Nanotechnology and wound healing

The Medical School, School of Public Health, and School of Nursing are key partners in these and many other projects in India.

## WEB EXTRAS



Learn more about the thriving U–India partnership at [www.mmf.umn.edu/mb/india](http://www.mmf.umn.edu/mb/india).



# One world, one medicine



Together, U of M and Ugandan doctors are waging war on HIV/AIDS and malaria in a disease hot zone

## medicine

BY BARBARA KNOX

IN HIS LABORATORY on the University of Minnesota campus, Paul Bohjanen, M.D., Ph.D., has spent more than a decade working to stem the tide of HIV/AIDS. But it wasn't until he traveled to Uganda, 8,000 miles away from his lab, that he truly came face-to-face with the gut-wrenching realities of that deadly disease.

"I remember, back in 2003, I visited a hospice program for AIDS patients in Kampala with a group of African doctors," says Bohjanen. "The facilitator asked how many people in our group had a family member who had died of AIDS, and every single African in the group raised their hand. I've never forgotten that."

As Bohjanen knows, the impact of HIV/AIDS is more devastating in sub-Saharan Africa than most Americans can possibly imagine. Likewise, the scourge of malaria, virtually wiped out in the United States, continues to kill hundreds of thousands in Uganda and its neighboring countries. So to work effectively on finding treatments and cures for these diseases, many University doctors have been taking their research to the heart of the problem, setting up shop at Makerere University in Kampala, the capital city of Uganda.

The University of Minnesota's now long-standing partnership with Makerere has proven to be a model for long-distance academic relationships centered on the exchange of research and education. Dozens of University of Minnesota faculty now spend time working in Uganda. Aaron Friedman, M.D., vice president for health sciences and dean of the Medical School, believes the Uganda partnership has reaped enormous benefits for Minnesota.

"It's difficult to overstate the importance of the relationship we've built in Uganda," he says. "While we have other relationships with programs around the world, this one is unique because of its extensiveness and the clear, productive work of the science. It's really borne fruit across the board."

He ticks off examples quickly: "We've been told by our students that our relationship with Uganda is one of the reasons they chose this medical school. Doctors here get grants because of it. And you can't study things like malaria in Minnesota, which means we wouldn't have some of our top faculty without having this bridge to sub-Saharan Africa."



**The facilitator asked how many people had a family member who had died of AIDS; every single African in the group raised their hand.**

— Paul Bohjanen, M.D., Ph.D.

John Finnegan Jr., Ph.D., dean of the School of Public Health and the University's assistant vice president of public health, couldn't agree more. "Sub-Saharan Africa is a 'hot zone' area," he explains. "You're going to find more than its share of emerging infectious disease there."

He certainly doesn't overstate the problem: Africa is home to 25 percent of the global disease burden and just 3 percent of the health care workforce. Of the world's 35 million people infected with HIV, 75 percent live in sub-Saharan Africa. Statistics for malaria are even worse: more than 90 percent of annual malaria deaths occur in Africa—and 85 percent of those who die are children under age 5.

In light of those facts, having a deep connection to East Africa is imperative for University doctors who do research in those areas—and for the Ugandans who benefit from their work.

"Uganda is the regional center of East and Central Africa," Finnegan says, "and Makerere University is one of the top 10 schools in Africa—and the only one in the top 10 outside of South Africa—so it's a very important university."

But taking a deeper look into the work being done by Minnesotans both on the ground in Uganda and in tandem with Ugandan doctors within the



PHOTOS BY KATE HOLT

*Photojournalist Kate Holt has worked extensively in East and Southern Africa for the last 10 years. Learn more at [www.kateholt.com](http://www.kateholt.com).*

## DIGGING DEEPER INTO THE COMPLICATIONS OF AIDS

HAVING LEARNED a great deal about the clinical features of AIDS in a decade of working in Uganda, University of Minnesota physician-scientist Paul Bohjanen, M.D., Ph.D., and his colleagues are now digging much deeper into complications of the disease.

Currently, associate director of Global Health Programs in Internal Medicine and principal investigator David Boulware, M.D., M.P.H., leads a team that includes Bohjanen; Ugandan colleagues Andrew

Kambugu, M.B.Ch.B., M.Med., and David Meya, M.B.Ch.B., M.Med.; and other African partners in a study focused on cryptococcal meningitis, an opportunistic infection widely seen across Africa that every year kills about 1 million people who have HIV/AIDS worldwide.

In Uganda, most people with AIDS who develop this infection are not aware that they have AIDS and are not on HIV therapy. Through this new study, the Minnesota–Makerere collaborative team aims to improve survival rates by discovering the optimal time to begin HIV treatment after cryptococcal meningitis is diagnosed.



Paul Bohjanen,  
M.D., Ph.D.

University of Minnesota's walls makes a strong case for this international relationship that has bonded, inspired, and trained so many students, researchers, and doctors over the years.

### HIV/AIDS and finding hope

Bohjanen, a professor in the University's departments of Microbiology and Medicine and director of the Center for Infectious Diseases and Microbiology Translational Research, helped blaze the trail when, almost a decade ago, he went to Makerere University for three months to teach a course about AIDS treatment to physicians from across Africa. He continues to travel to Kampala two or three times a year, and he now has status as professor-in-residence at Makerere, although he's moved from being primarily in a classroom into hospital and clinic settings, where he provides mentorship to local researchers. He also has a Ugandan medical license so he's able to actively treat patients at Mulago Hospital, the teaching hospital affiliated with Makerere, when he's in Kampala.

When Bohjanen first began to spend time in Uganda, the situation was grim. "At that time, there was a very gloomy undertone to AIDS care," he says. "Everyone knew they were taking care of patients who were going to die."

Since antiretroviral therapy (ART) has become more widely available, however, the forecast has brightened.

"People get on treatment now and they get better," Bohjanen reports. "It's improved the morale of the health care providers and really of society at large. Now there's hope."

Bohjanen, who also directs the University of Minnesota research office that opened at Makerere in 2010, is now seeking funding for a "test-and-treat" pilot program that he hopes will fundamentally change the way HIV/AIDS is diagnosed and treated in Africa.

The test-and-treat program is designed to go into a community and test everyone living there for HIV. Anyone testing positive would begin treatment immediately.

"This approach could dramatically decrease AIDS transmission," he says.

Unfortunately, that approach is also expensive—in the short term, anyway. Says Bohjanen: "Our current approach to this disease isn't leading to decreases in transmission. So while the test-and-treat approach would be a major investment, if it decreases transmissions, which is our belief, then it will ultimately lead to huge cost savings down the road as fewer and fewer people require expensive treatment and hospitalization."

Though Africa may be ground zero for the HIV/AIDS epidemic and many related research projects, Bohjanen is quick to point out that the problem is certainly not contained there.

"Minnesota is home to a very large community of African immigrants," he says, "and some of them are bringing HIV/AIDS with them. Today in medicine, local is global and global is local."

### Malaria: a brighter outlook

Chandy John, M.D., M.S., a University of Minnesota colleague in the departments of Pediatrics and Medicine who

directs the Division of Global Pediatrics, is compelled to improve the lives of those who have another devastating disease: malaria, one of the leading causes of death worldwide in children under age 5.

John has been working on various studies in sub-Saharan Africa since 1996 and is internationally known for his work on how malaria occurs and progresses.

“There is a huge burden of disease on children overseas,” says John, “and that’s why I work there.”

He and his team are currently focused on cerebral malaria, one of the deadliest forms of malaria. Twenty percent of children who contract the disease die.

The children who recover from cerebral malaria can look quite well but suffer from long-term brain damage, John says.

In earlier studies, he and his team found that 25 percent of the children who’d had the disease showed cognitive impairment two years after recovery—that’s 200,000 kids a year. Now John and his Ugandan research partner Robert Opoka, M.D., are focused on discovering how and why this happens—and how to stop it.

“Malaria accounts for 45 percent of all pediatric admissions to Mulago Hospital,” says Opoka, a senior lecturer in pediatrics at Makerere University and now an adjunct professor at the University of Minnesota. “There are many, many children affected, and a number of them go on to develop complications like blindness, motor difficulty, and cognition impairment. But this disease is preventable, treatable, and curable. The research we do with Chandy has given us more understanding—clues to how it can be treated better and how it can be prevented.”

**Kids in Uganda  
deserve good care.  
It’s important for  
me to stay on top  
of things here, then  
share that knowledge  
in Africa.**

– Chandy John, M.D., M.S.,  
director of the University’s  
Division of Global Pediatrics



## **MAKING DIABETES MANAGEABLE**

In a resource-limited country such as Uganda, diseases that are generally considered manageable in the United States can lead to severe complications and even death.

One such illness is type 1 diabetes. University of Minnesota pediatric endocrinologist Antoinette Moran, M.D., leads a collaborative effort with partners at Mulago Hospital in Kampala to address the need for better methods of diagnosing and treating children who have type 1 diabetes.

Read the full story at [www.mmf.umn.edu/mb/diabetes](http://www.mmf.umn.edu/mb/diabetes).

## RECOGNITION FOR OUTSTANDING WORK

The American Society of Tropical Medicine and Hygiene in December honored Chandy John, M.D., M.S., and his distinguished work in tropical medicine with its prestigious Bailey K. Ashford Medal.

“The ‘distinguished work’ is shared work,” John says. “It was a huge honor to receive the award, but it’s a daily honor to work with our colleagues. What the award says more than anything is that we are on the right track, that our work is

making a difference for underserved children in low-income countries, and that’s what matters most.”

Awarded annually to a midcareer professional, the medal is named for Col. Bailey K. Ashford, M.D., a pioneering physician whose work on the North American hookworm and anemia saved many lives in the early 20th century.



Chandy John, M.D., M.S.



Still, Opoka faces an uphill battle in his daily care of patients. In Uganda, inadequate staffing and equipment present a constant challenge. “So our care is not as good as it should be,” he says. “But this cooperation from Minnesota helps us employ more staff on the ward, buy more equipment, and train more people who can provide clinical care and do research.”

### Exchanging ideas

For John, balancing a life spent partially in Africa and partially in Minnesota at University of Minnesota Amplatz Children’s Hospital, one of the premier medical facilities in the United States, can be challenging.

“Sometimes it’s hard to wrap my head around the disparities,” he admits. “Being here, at a hospital known for

transplants, I see patients who require the most complex thinking, and I have the most sophisticated resources available. There, I see children in such desperate need, and have so few resources to use.

“But I think it’s important to do both,” he adds. “Kids there deserve good care, too. It’s important for me to stay on top of things here, then share that knowledge in Africa.”

That back and forth—the trusted exchange of ideas with Ugandan doctors and researchers—is at the core of the relationship. Those involved stress that this is not about the Americans swooping in with all the answers.

“We come in asking how we can help,” says Finnegan. “In return, we gain the ability to do important research, to

exchange students and staff, and to build a strong platform for dealing with global health issues.”

Opoka, who has worked with John since 2003, agrees. “The University of Minnesota’s aim is not to come to Uganda and teach us something,” he believes, “but rather to come here and work with us. We have many things to contribute, and they help us get to the next level.”

Opoka enthusiastically endorses the partnership and says it has helped Makerere become one of the top universities on the continent. “We are now ranked eighth in Africa, primarily because of the important research we’ve done here,” he says. “Our relationship with the University of Minnesota has helped raise our profile greatly.”

### Coming together to improve health

Friedman, who made his first trip to Uganda in February, believes that as the partnership matures, the benefits derived increase exponentially.

“There is a whole series of obstacles to creating a successful working relationship like the one we have in Uganda,” he says. “How to maneuver within their legal system, how to work with their bureaucracies, finding physical space, allocating resources. But once you’ve made it across those hurdles, you don’t have to keep rebuilding. Now the doctors can focus on work; now we can exchange students and faculty easily.”

For his part, Finnegan considers such international relationships central to the University of Minnesota’s core mission.

“What does it mean to be a global university with a land-grant mission?” he asks. “A place like Uganda, in many ways, helps us reflect on how that mission should develop. One hundred fifty years ago, with the establishment of the land grant, the University’s mission was to develop new knowledge that could be used to create practical applications to improve lives. Now we’ve extended that same mission across the world to encompass a new place where, with practical applications, lives will improve.”

In the end, though, the University of Minnesota’s strong relationship with Uganda is reflective of the smaller world we live in and the imperative need to work together to solve problems.

“Our relationship with Uganda is especially critical in terms of public health,” Finnegan says. “Seventy-five percent of emerging diseases are coming through animal vectors, and sub-Saharan Africa is at the heart of that. But those diseases that originate in Africa—West Nile disease, Chikungunya disease—sooner or later they’re going to come here. The only way to deal with it effectively is to create partnerships.” <sup>[M]</sup>

Barbara Knox is a Minneapolis-based writer and editor who covers a wide range of topics for local and national magazines.

*For more information on how you can support the University of Minnesota’s partnerships in Uganda, contact Courtney Billing at 612-626-1931 or [c.billing@mmf.umn.edu](mailto:c.billing@mmf.umn.edu), or Adam Buhr at 612-626-2391 or [a.buhr@mmf.umn.edu](mailto:a.buhr@mmf.umn.edu).*



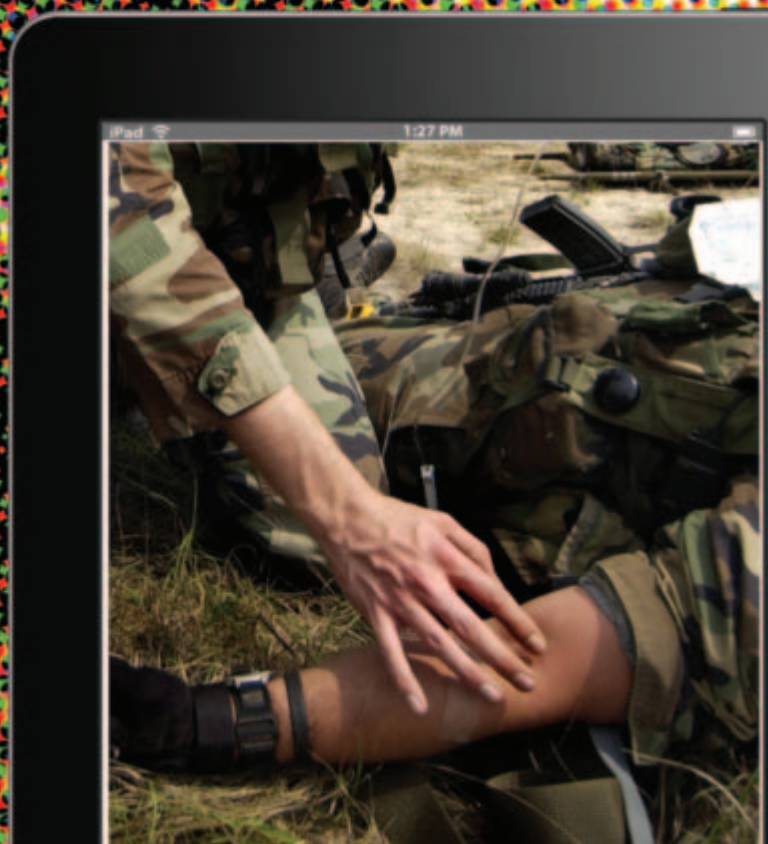
### WEB EXTRA



See the U’s public health work in Uganda in action at [www.mmf.umn.edu/mb/uganda](http://www.mmf.umn.edu/mb/uganda).

# A lifesaving role for virtual reality

How well can simulation training prepare  
combat medics for the real thing?  
U of M leads the team that will find out





**A**t Fort Sam Houston in San Antonio, Texas, the Army trains about 7,000 combat medics each year. Most arrive with no medical experience whatsoever. They're usually in their early 20s with maybe a high school degree or some college under their belt. By the time they leave just 16 weeks later, they'll be trusted to take on one of the most stressful and important jobs on the battlefield.

Good training pays off in lives saved—and more than 90 percent of troops wounded in action do survive. But is combat medic training the best it can be? To find out, the Department of Defense has awarded an \$11 million grant to the University of Minnesota Medical School to lead a consortium that will develop metrics to measure training effectiveness, identify gaps in simulation technology, and come up with the best methods for preparing our military's first responders.

"I feel very patriotic about what we're doing," says the project's principal investigator, Robert Sweet, M.D., an associate professor of urology and director of the University's SimPORTAL.

Short for Simulation PeriOperative Resource for Training and Learning, SimPORTAL is the Medical School's interactive training center where medical students and other trainees participate in situations brought vividly to life by virtual reality, simulation, and 3-D.

What started out as the pursuit of a major grant has turned into something more powerful, says Sweet, a world-renowned expert in medical simulation training. "It's become more than just a research project. I really feel like we have the opportunity to make a substantial contribution to the future of our men and women in uniform and to the missions they serve."

### Judging preparedness

More than 45,000 service members have been wounded in action in Iraq and Afghanistan. For many troops, the first medical attention they receive in the critical moments following an injury comes from a combat medic. This "golden hour" is when most lives are saved, Sweet says.

At Fort Sam Houston, the medic training begins with a basic emergency medical technician course—the same one civilian first responders need to pass before becoming paramedics. Next, they move on to more specific battlefield first aid and trauma training.



PHOTO: SCOTT STREBLE

Robert Sweet, M.D., and Troy Reihsen are two members of a University team leading a national consortium that's evaluating simulation training for combat medics. Also on the team are coinvestigators Greg Beilman, M.D., Jeffrey Chipman, M.D., Joseph Clinton, M.D., François Sainfort, Ph.D., and Connie C. Schmitz, Ph.D.

It all culminates with a two-week simulation during which trainees perform tasks on mannequins while the sights and sounds of combat are re-created around them.

“Even though the mannequin never dies, we can still make it relatively nerve-racking,” says Don Parsons, the U.S. Army’s deputy director of combat medic training.

The experience serves as the last test of students’ skills—there is no formal final exam. That isn’t the case with some Special Forces, which require medic trainees to pass an evaluation at the end of their training.

The Army does not have a universal assessment tool to judge the preparedness of combat medic trainees. Part of the MEDSIM Combat Training Consortium’s mission is to develop one.

The three-year project has had Sweet and his team traveling to multiple military sites, including Fort Sam

Houston and Special Forces locations, to observe training and interview leaders about the essential skills a combat medic requires. They’ve gathered existing assessment tools, both military and civilian, and they’ll use this information to develop a single test for the military to use across all service branches.

### From CPR dolls to virtual reality

Medical simulation has come a long way since the days of Resusci Anne. Today’s simulation mannequins might resemble yesterday’s CPR dolls, but that resemblance is only skin deep. The insides of modern simulators are packed with sensors and electronics that let them be programmed for and respond to a variety of situations.

Sweet’s medical simulation career started around the time technology was beginning to reinvent the field. He first became interested while completing his residency at the University of Washington in the late ’90s. He was watching a faculty member demonstrate a procedure in which he held a controller in one hand and viewed the tip of the tool through a video monitor.

“It just sort of clicked,” says Sweet: This wasn’t all that different from the video games he had played as a kid.

As part of his lab project, Sweet proposed building a virtual-reality video game for training prostate surgeons. He convinced his chairman of the merits and then not only found funding to build the tool, but also successfully spun it into a commercial product. Sweet stayed in Seattle to help cofound Washington’s simulation center before being recruited back home to the Twin Cities in 2005 to start a program in Minnesota.

Just two years later, the SimPORTAL program had already received level-1 accreditation from the American College of Surgeons, putting it in an elite class. Since then, the program has hired directors and researchers, developed training and curriculum, and pulled in federal research grants.

Medical simulation is still an emerging field with relatively few sources of research grants. The U.S. Department of Health and Human Services has funded some projects, but the biggest source of dollars by far has been the U.S. Department of Defense. “DoD gets it, and they have for years,” says Sweet. DoD has either funded or developed the majority of medical simulation products currently in use. And so building a premier medical simulation center practically depends on winning work from and partnering with the military.

The University of Minnesota–led consortium (see sidebar on page 18) beat out bids from strong teams across the country to win the \$11 million grant—the military’s largest-ever award for training effectiveness and medical simulation research.

“It’s a really great statement about what our school can do and how broadly recognized it is,” says Aaron Friedman, M.D., dean of the University’s Medical School and vice president for health sciences. “A grant like this allows us to not only be recognized for what we’ve done, but to continue to remain at the forefront of how this kind of technology and training can be used going forward.”

### Showcasing strengths

The award is an endorsement of the University’s trauma research and medical simulation program, as well as its long history of training and

Our facilities will simulate the sights, sounds, and smells of the battlefield, and we will be monitoring medics’ stress responses to the situation as they perform lifesaving maneuvers.

– Robert Sweet, M.D., director of the University’s SimPORTAL

innovation in critical and trauma care. Grant collaborators include University of Minnesota scientists Greg Beilman, M.D., and Richard Bianco, who have developed new therapies and tools for treating trauma and hemorrhagic shock.

“We’ve done trauma research for years. We’re very experienced at training people, whether it’s doctors or technicians, or in this case, medics,” says Bianco, director of experimental surgery at the University.

Another of the program’s assets is its director of operations, Troy Reihsen, First Sergeant Joint Force Headquarters with the Minnesota National Guard. Trained as a combat medic at Fort Sam Houston in 1991, he brings a unique perspective to the project.

“Currently, there is no tool out there that can [fully] prepare you for wounds seen on the battlefield,” says Reihsen, recalling his own combat experiences.

Achieving the realism necessary to properly train combat medics is SimPORTAL’s goal. Its DoD grant is focused solely on developing metrics to measure training effectiveness by examining the current curricula and evaluating existing

### MORE THAN A MANNEQUIN

Here are some of the features that allow modern medical simulators to mimic real patients:

- Pupils that automatically dilate and constrict in response to light
- Thumb twitch in response to a peripheral nerve stimulator
- Automatic recognition and response to administered drugs and drug dosages
- Variable lung compliance and airway resistance
- Automatic response to needle decompression of a tension pneumothorax, chest tube drainage, and pericardiocentesis (removal of fluid from the sac enveloping the heart)
- Automatic control of urine output



## MEDSIM CONSORTIUM PARTNERS

University of Minnesota, lead

American College  
of Surgeons

National Registry  
of Emergency Medical  
Technicians

Army Medical Department  
(AMEDD)

Defense Medical Readiness  
Training Institute

Madigan Army  
Medical Center

Uniformed Services  
University for  
Health Sciences

U.S. Army Research  
Development and  
Engineering Command

Applied Research  
Associates, Inc.

Program Executive Office  
for Simulation Training  
and Instrumentation

simulation technology, but Sweet and his team are working on a variety of novel simulation tools through separate grants from other sources. The program has been developing a database of human tissue properties, which it's using to create synthetic tissues that look and act like the real thing. It's also developing iPad apps for teaching procedures, and it's partnering with an Austin, Texas, company called Zebra Imaging on three-dimensional holograms. "It's like an anatomical Star Wars," Sweet explains.

The SimPORTAL team spent the fall and winter reviewing the literature, collecting information on current training programs, researching existing simulation tools, and designing an initial version of the assessment tool. It will spend the spring and summer refining that tool and testing the design of the training course in a half-year pilot study.

"Our facilities will simulate the sights, sounds, and smells of the battlefield, and our human factors team will be monitoring medics' stress responses to the situation as they perform these lifesaving maneuvers," says Sweet. "We want them to feel like it's real so that they don't freeze up the first time they have to perform these skills in combat."

By the end of summer, the SimPORTAL team plans to have its new medic assessment tool validated and ready for use. The military will be able to incorporate the finished tool into combat medics' final exams to measure skill acquisition. The tool will also be central to an 18-month comparative study that will begin in September. SimPORTAL staff will travel to Fort Sam Houston and compare the effectiveness of a training course based on simulation with other approaches.


The project's final six months will be spent on data analysis, publication, and presentations.

### Becoming a world leader

Sweet frequently hears comments from people who compare his field to the airline industry, which has used flight simulators for decades. "People say, 'Why don't you just do that for medicine?'" says Sweet.

The problem: a 747 is simple compared with the human body. We know exactly what an airplane is made from and how those parts and materials will react to any force they encounter in the air, says Sweet. Meanwhile, we still haven't unlocked enough mysteries of our model of the human body to know precisely how any individual will respond to different procedures.

Simulation technology is evolving, but more funding would speed it up—which is what makes the Department of Defense grant so significant, positioning Minnesota to play a lead role in the field.

"We want Minnesota to be known as the place to come to for medical simulation," says Sweet. "We won the biggest grant ever to study medical training effectiveness—a completely new approach to medical education. We're at the right place at the right time. I feel like we're ready to begin building the golden gate to a new era in simulation-based training in health care." 

Dan Haugen is a Minneapolis-based freelance journalist who writes about energy, business, and technology.



Though she weighed only 1 pound 6 ounces at birth (above), Emma Michael looked healthy to NICU Follow-Up Clinic doctors at 3 months adjusted age. Her newborn footprints (above right) are actual size.



## FROM TINY to on track

For families with premature or once critically ill babies, the NICU Follow-Up Clinic provides resources and peace of mind

BY NICOLE ENDRES

REBECCA AND JAMES MICHAEL were expecting their second child in early November. But baby Emma could only wait until July 11, when she was born at one day over 23 weeks' gestation, weighing a mere 1 pound 6 ounces.

While The Birthplace care team stayed with Becca at University of Minnesota Medical Center, Fairview, neonatologists immediately brought Emma to the adjacent University of Minnesota Amplatz Children's Hospital's neonatal intensive care unit (NICU), and James followed. He got a closer look at his tiny new daughter. He couldn't shake off a sinking feeling in his stomach.

"All he would really say about her was that she was really little," Becca recalls. "He didn't want me to know anything



**While the general public thinks of low-birth-weight infants as small versions of term babies, a prematurely born infant is at risk for complications in all organ systems because of immaturity.**

— Indu Agarwal, M.D.,  
NICU Follow-Up Clinic

about what she looked like because he didn't think it would go well."

Becca saw Emma up close for the first time a few hours later. "You can't really fathom how small she would be," she says. "We knew she was going to be there for a really long time."

And she was—133 days. In the NICU Emma needed a ventilator to breathe for six weeks. She also was treated for a blood infection, irregular blood sugar levels, and retinopathy of prematurity, among other issues. By the time the Michaels took Emma home shortly before Thanksgiving, she was still on oxygen and needed two shots daily to get rid of a blood clot that had formed right above her heart, in addition to five other medications they mixed into her milk.

Overwhelming? Definitely. But thanks to the care and training they've received through the NICU Follow-Up Clinic at Amplatz Children's Hospital, the Michaels aren't feeling lost and alone.

Indu Agarwal, M.D., says NICU graduates' long-term needs can vary greatly depending on their early medical condition and experience.

"It's nice that when you leave the NICU, you don't just get thrown out into the world," Becca says. "You don't feel like you just got let go."

### **Winding and unwinding**

In addition to providing a trusted resource for parents as their babies come home, the NICU Follow-Up Clinic staff helps to ensure these babies' long-term well-being. Created in the late 1970s as preemies' survival rates improved, the University's follow-up program was one of the first in the nation to take a multidisciplinary approach to supporting the growth and development of NICU graduates through childhood.

The clinic's staff—made up of neonatal intensive care physicians (the same doctors who staff the NICU), nurse practitioners, a child psychologist, and an occupational therapist—tracks milestones such as motor development, cognitive skills, and language development at critical times throughout the child's young life and connects families with additional services as soon as a need is identified.

NICU graduates' long-term health and developmental needs can vary greatly, depending on how early they arrived and what complications they had in the hospital.

"While the general public thinks of low-birth-weight infants as small versions of term babies, a prematurely born infant is at risk for complications in all organ systems because of immaturity," says the NICU Follow-Up Clinic's Indu Agarwal, M.D.

The most common problems preemies face after being discharged from the hospital, she says, include chronic lung disease, neurodevelopmental deficits or delays, slowed growth, apnea, vision loss, hearing loss, acid reflux, and complications of prior treatments in the NICU. (Some term babies who suffered traumatic deliveries, birth injuries, and infections, for example, also may need ongoing specialized care.)

According to the Centers for Disease Control and Prevention, 1.5 percent of the more than 4 million babies born in the United States every year are considered very low birth weight—less than 1,500 grams or 3 pounds 4 ounces. More than 80 percent of these 62,000 babies survive long enough to be discharged from the NICU, Agarwal says, and among the survivors, 20 to 40 percent need short-term or long-term specialty care.

“It’s a huge number of medically complex babies who need ongoing follow-up after they go home,” she says.

But the careful tracking and early intervention therapies offered through Amplatz Children’s Hospital’s NICU Follow-Up Clinic are meant to ensure that each child has the best chance for optimal development—and a bright future.

“In the clinic we are doing a lot of unwinding,” says its director, Michael Georgieff, M.D. “In the NICU we tend to wind parents

up about all of the bad things that might happen. The NICU Follow-Up Clinic, for the most part, because most kids turn out fine, is to unwind that and get them to relax and treat their kids like normal kids.”

### Checking in on development

The NICU Follow-Up Clinic staff typically assesses children at important times in their development, as the brain grows in spurts—first at 4 months of age corrected for prematurity (calculated from the mom’s due date), 12 months corrected age, 2 years, and between ages 4 and 5, before they start school. Children who had special health concerns—leaving the hospital on oxygen, for instance—are seen sooner and their problems are managed as needed.

“A way I put it for the parents is that your baby doesn’t get any credit for coming out early,” Georgieff says. “The neuroscience way of saying it is early brain development appears to be very programmed based on time from conception and not very influenced by ‘on planet’ experience.”

Therefore, kids who are meeting milestones for their corrected age are progressing just fine, he assures parents.

At the first routine visit to the NICU Follow-Up Clinic at 4 months of corrected age, the child is seen by a nurse practitioner, physician, and occupational therapist for an examination of growth, development, and muscle tone.



Christopher and Cara Kail

## A cool treatment saves the day—and the brain

WHEN CARA AND MICHAEL KAIL left home for Fairview Southdale Hospital for the birth of their fourth child late on the evening of September 24, 2010, Michael had planned to be home the next day to take their other kids to the Children’s Theatre.

But a rare and very dangerous complication caused Cara to lose consciousness during labor early the next morning, which resulted in an emergency C-section birth, right in the labor room. At one point, neither Cara nor new baby Christopher was breathing or had a pulse.

The team of doctors and nurses revived Christopher within minutes, but it was unclear whether Cara would survive.

While doctors worked on Cara, a neonatology team transferred Christopher to the neonatal intensive care unit (NICU) at University of Minnesota Amplatz Children’s Hospital within just two to three hours of his birth to start a cooling therapy designed to preserve brain function after oxygen deprivation.

*Read about how experts at the NICU Follow-Up Clinic are monitoring Christopher’s development today at [www.mmf.umn.edu/mb/christopher](http://www.mmf.umn.edu/mb/christopher).*



PHOTOS: JIM BOVIN

**It's nice that when you leave the NICU, you don't just get thrown out into the world. You don't feel like you just got let go.**

— Becca Michael

WEB EXTRA



See how Emma's family and doctors are keeping her development on track at [www.mmf.umn.edu/mb/nicu](http://www.mmf.umn.edu/mb/nicu).

“At that point we can, with a fair amount of certainty, reassure parents that your baby is not going to have cerebral palsy, your baby is not going to have severe developmental delays,” Georgieff says. “You can often rule out the major handicaps by about 4 months of corrected age.”

At the second routine visit at 12 months corrected age, in addition to checking the child's health and growth, the staff assesses the child's fine and gross motor development and brings in neuropsychologist Christopher Boys, Ph.D., to measure the child's cognition and language skills.

At the third routine visit around age 2, Boys assesses the child's cognition and ability to verbally express wants and needs. He also looks for and addresses early signs of attention problems, as premies seem to have higher rates of attention deficits. By this age, Georgieff says, the team is able to start ruling out minor handicaps.

A fourth routine visit the summer before the child is scheduled to start school, around age 5, is designed to assess school readiness.

Boys likes to see NICU graduates in fourth grade, as well, when children are first asked to “read to learn and not just learn to read,” he says.

Many NICU graduates with good IQs do well in school up to this point, Boys says. But when a fourth-grader has trouble, teachers and parents may blame the child or attention deficits, when the issue could be a late effect of prematurity that has affected the part of the brain that controls high-end processing skills, he says.

“Teachers tell them to try harder, when in fact we have to help them try differently,” he says.

### **A pioneering U team**

Ensuring the best outcomes for NICU graduates is clearly no simple task. At an academic medical center like the University's, research plays a central role in acquiring the experience and expertise that are critical to determining the best ways to care for children.

The NICU Follow-Up Clinic's research arm, the Center for Neurobehavioral Development, has created and imple-



FAR LEFT One-year-old Anders Lee-Eichenwald wears a special cap designed to measure brain wave activity and capture the same information a functional MRI scan would in an adult — without the need for sedation. University scientists pioneered the use of this special cap for babies.

LEFT NICU Follow-Up Clinic director Michael Georgieff, M.D., examines a graphical representation of Anders's brain waves.

mented a variety of unique tools to evaluate development and cognition in very young children, even in infants.

“That’s where the U of M has been a real pioneer,” Georgieff says. “We developed tools that would allow us to get, if you were, into the baby’s brain earlier, which then allows us to intervene earlier and improve outcomes.”

The multidisciplinary Center for Neurobehavioral Development works closely with the University’s Institute of Child Development — the top-ranked child development/child psychology program in the country, according to *U.S. News & World Report* — to develop and test these tools. And with the expertise of the University’s world-renowned Center for Magnetic Resonance Research and a strong neuroscience graduate program at its fingertips, the NICU Follow-Up Clinic is at the leading edge of understanding how preemies’ brains develop.

“You’re just not going to find anything like that [elsewhere],” Georgieff says.

Plus, no other institution has a formal training program in NICU follow-up care, he adds, while at the University it’s a requirement of the Department of Pediatrics’s neonatology fellowship program.

“You need this marriage of a major neonatal intensive care unit like ours that also has people who study and are interested in brain development and child development,” Georgieff says. “For me, a major inspiration for going back into that intensive care unit and taking care of sick babies is seeing how well these kids do in follow-up.”

Emma Michael is one of the kids providing that inspiration. Since she went home last fall, Emma’s blood clot has dissolved, she no longer needs to be on oxygen, and she needs less and less medication. And she now weighs more than 11 pounds, a normal size for her corrected age.

The Michaels are grateful for the affirmation they’re getting at the NICU Follow-Up Clinic as well as the continuity of care provided by the people who know Emma and her special medical and developmental concerns best — the team that was with her since her early arrival.

“They’ve spent time with her. They just know the little things about her that are different,” mom Becca Michael says. “We’ve had a really great experience.” MB

Nicole Endres is managing editor of the *Medical Bulletin*.

## NICU FOLLOW-UP CLINIC LOCATIONS

- Explorer Clinic at University of Minnesota Amplatz Children’s Hospital, Minneapolis
- Specialty Clinic for Children, Burnsville
- Fairview Maple Grove Medical Center

*To make a gift to the NICU Follow-Up Clinic at University of Minnesota Amplatz Children’s Hospital, contact Jen Foss at 612-625-5276 or [j.foss@mmf.umn.edu](mailto:j.foss@mmf.umn.edu).*

## IMPROVING NICU CARE = BETTER LONG-TERM OUTCOMES

THE NICU FOLLOW-UP CLINIC opened in the late 1970s as survival rates for premature babies began to rise and doctors started to question how the care they were giving would affect the babies in the long term.

Longtime University neonatologist Theodore Thompson, M.D., who ran the clinic in its early years, says what they found was encouraging but left room for improvement.

*Read more at [www.mmf.umn.edu/mb/nicu](http://www.mmf.umn.edu/mb/nicu).*

# Minnesota's Future Doctors

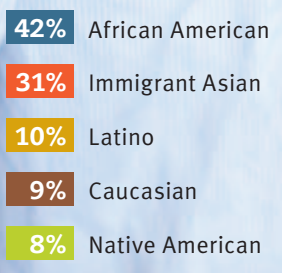
AFTER WITNESSING THE RAVAGES of war in his native Somalia, Mohamed Hassan was determined to pursue a career in medicine. "I was inspired [to act] by seeing the civil war ... and many people dying of simple things that could easily be cured," he says.

Hassan, who moved to Minneapolis at the age of 10 and graduated from South High School, didn't know how he would reach his goal—until he learned about Minnesota's Future Doctors, which put the U of M junior on track to begin medical school in 2013.

Now in its fifth year, the University of Minnesota program prepares undergraduates from underrepresented communities across the state for admission to medical school. It offers counseling and courses that prepare these students for the competitive application process and provides shadowing, mentorship, and internship opportunities that give students a close-up look at what it means to be a doctor.

With help from Minnesota's Future Doctors for the last three years, Hassan is a big step closer to achieving his dream. "Through the Minnesota's Future Doctors program, I learned what it takes to be a solid [premedical student] and all of the different things one has to do outside of academics," he says.

## ETHNICITIES OF PARTICIPATING FUTURE DOCTORS



# measure up

## Today's Future Doctors

Today's Future Doctors are highly talented and motivated, as program director Jo Peterson, Ph.D., attests. "These kids take my breath away at every turn," she says. "They represent the best of who we are as a society."

In addition to their everyday undergraduate studies, they participate in numerous academic, professional, and community-building activities. Hassan, for example, is pursuing a bachelor's degree in biology, society, and environment, and recently completed a summer internship at Yale School of Medicine, an opportunity he found through Minnesota's Future Doctors.

"If it wasn't for Minnesota's Future Doctors, I wouldn't have heard about the program, nor would I have had the courage to apply to such a prestigious Ivy League school," he says. "The program has helped me to believe in myself and reach for things I never imagined possible." MB

By Lesley Schack, associate director of donor relations at the Minnesota Medical Foundation

## MINNESOTA'S FUTURE DOCTORS BY THE NUMBERS

2007-2012

### ALUMNI: 47

**36** Enrolled in medical school

**11** Pursuing other professions or reapplying to medical school

### CURRENT SCHOLARS: 201

**50** College freshmen

**53** College sophomores

**51** College juniors

**47\*** College seniors

\* 35 have taken the Medical College Admission Test; 12 are pursuing other professions or planning to apply to medical school at a later date.

*While many of our scholars help in their homes, work 20 hours per week, attend college full time, conduct research, and shadow in a hospital setting, they are always willing to volunteer.*

— Jo Peterson, Ph.D., director, Minnesota's Future Doctors

## FUTURE DOCTORS GIVE BACK

2007-2012

**12,650**

Volunteer hours

**14**

Science fairs hosted

**\$120,000**

Dollars raised to support children affected by HIV/AIDS

# Alumni Spotlight | Elizabeth Seaquist, M.D.

## Coming home—and staying put

ELIZABETH SEAQUIST, M.D., CHOSE her career path as a young girl while reading the book series about nurse Sue Barton. “I knew when I read them,” she says with a laugh, “that I wanted to be the doctor.”

So when the Minneapolis Public Schools alumna didn’t get top grades at Vassar College and was subsequently rejected by medical schools everywhere—two years in a row—she was mentally and emotionally preparing to move on. She’d instead go to graduate school and become a special education teacher.

Then Seaquist got a call from the University of Minnesota Medical School’s admissions office notifying her of an error on its part and asking whether she would consider being wait-listed.

Seaquist—who was then working as a researcher in New York City—had no intention of moving back to Minnesota. The oldest of six children who used to share a bedroom with two sisters, she enjoyed being on her own. But she also really wanted to become a physician.

The Medical School officially accepted Seaquist a few days after that phone call. Thirty-four years and an illustrious research career later, she’s still here.

“At every time point where I have thought about moving, and there have been several, Minnesota always offered me amazing opportunities,” says Seaquist, who holds the Pennock Family Chair in Diabetes Research and directs the University’s Center for Diabetes Research. “This school has been really good to me.”

## Asking questions, finding answers

Seaquist’s first taste of research at the University came even before medical school, when she worked for four summers in the laboratory of William Krivit, M.D., then head of the Department of Pediatrics.

Though Seaquist was intrigued by her studies in Krivit’s lab, her true interest in endocrinology and diabetes was sparked by a second-year medical school lecture.

“Why does this problem of high glucose lead to all of these downstream things? How can people end up blind and have kidney failure? What’s happening in the cell in response to this high glucose that’s causing all of these problems? That’s sort of been the theme of everything I’ve done in my research career,” Seaquist explains.

Through the recently wrapped-up ACCORD Study, for instance, Seaquist and colleagues across the country examined whether glucose control was important in reducing diabetics’ risk of heart disease, as it is for reducing eye, nerve, and kidney complications. But it didn’t seem to have a positive effect—in fact, Seaquist says, there may be an increased risk of death for the participants trying to keep their blood sugars normal.

Seaquist is now preparing to enroll patients in another multicenter clinical trial called GRADE that’s aimed at ascertaining which drugs—in addition to the standard metformin—help people with type 2 diabetes maintain normal glucose levels the longest.

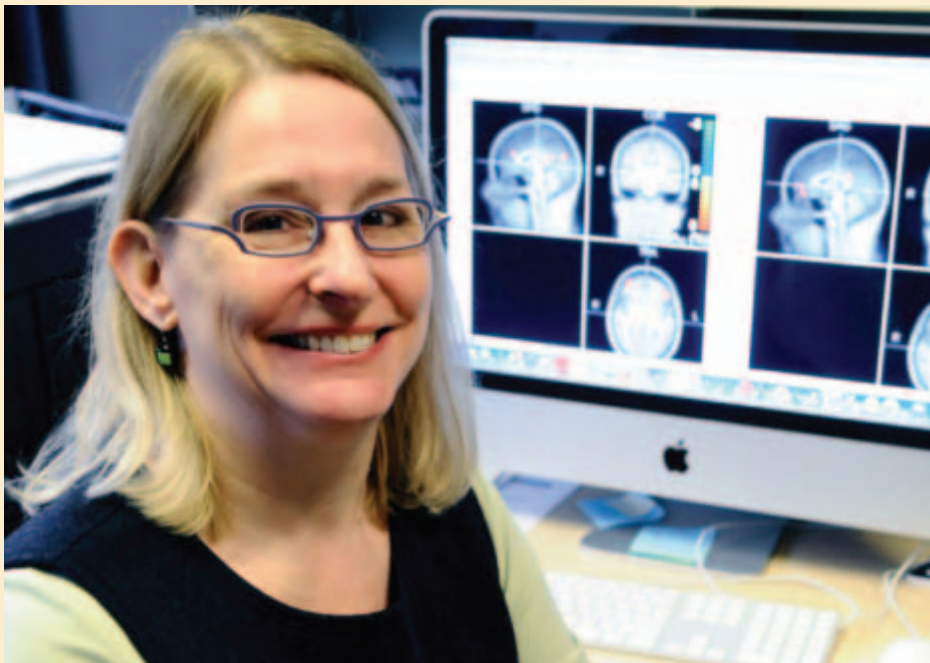


PHOTO: JIM BOVIN

The technologies and expertise needed to conduct leading-edge brain imaging research are just part of what has kept endocrinologist Elizabeth Seaquist, M.D., at the University for more than three decades.

While she says these large studies are important for determining the best ways to help patients, Seaquist also likes to take a more independently creative approach to her research. For the last decade, she has partnered with colleagues at the University's world-renowned Center for Magnetic Resonance Research (CMRR) to study how diabetes and its therapies affect the brain.

At first she studied how the human brain uses glucose "in real time in real life," using the CMRR's leading-edge technologies to watch the process in both healthy people and people who have diabetes. Today Seaquist and imaging expert Gülin Öz, Ph.D., are examining how neurotransmitters in the brain's hypothalamus are altered in people who experience hypoglycemia unawareness, a dangerous complication of diabetes. They also are exploring how a storage form of glucose (known as glycogen) can play a role in providing fuel to the brain when there isn't enough to perform its usual functions.

### A new challenge

What's next for Seaquist may provide an even bigger challenge. She's a coleader of the "Decade of Discovery" initiative, a partnership between the University and Mayo Clinic to prevent, optimally treat, and ultimately cure type 1 and type 2 diabetes.

"We view it as an opportunity to conquer diabetes across the state of Minnesota," says Seaquist, who represents the University on the project's three-person management team.


The team hopes to accomplish that goal by bringing new knowledge garnered from novel research happening at the University and Mayo to colleagues in the community, whom Seaquist considers the experts on transferring that knowledge into best practice care for patients.

It's a big project and a huge challenge. But Seaquist is optimistic.

"We're really going to have an impact on diabetes across the state," she says.

Good thing for that admissions error, eh?

"It's horrible not to succeed at something you want to do, but in retrospect, it probably was a good experience," she says of her initial medical school rejection. "If you don't really love what you choose to do, you're not going to be able to deal with the disappointments that come. It has to be well worth it."

For Seaquist, it is. 

By NICOLE ENDRES, managing editor of the *Medical Bulletin*

### WEB EXTRAS



Elizabeth Seaquist, M.D., explains why research means hope for people with diabetes at [www.mmf.umn.edu/mb/seaquist](http://www.mmf.umn.edu/mb/seaquist).

Listen to a special MPR series on the Decade of Discovery at [www.mmf.umn.edu/mb/decade](http://www.mmf.umn.edu/mb/decade).



### SAVE THE DATE: 2012 ALUMNI CELEBRATION

Mark your calendars for this year's Alumni Celebration, October 4–5, 2012 (new date!). All Medical School alumni are invited to reunite with old friends, celebrate achievements, and learn what's new at the Medical School. Join us for an alumni awards banquet, a medical education forum, a scholarship luncheon, class reunion receptions and dinners, and more. Invitations will be mailed in August.

Celebrating reunions this year are the classes of 1947, 1952, 1957, 1962, 1972, 1982, 1987, 1992, 2002, and 2007 — but alumni from every class are encouraged to attend.

The Medical Alumni Society is looking for volunteers to help plan the dinners and to contact classmates.

Look for Alumni Celebration updates and connect with your classmates by "liking" the Medical Alumni Society on Facebook at [www.facebook.com/umnMedicalAlumni](http://www.facebook.com/umnMedicalAlumni).

To volunteer or learn more, visit [www.mmf.umn.edu/alumni/reunions](http://www.mmf.umn.edu/alumni/reunions) or contact Katrina Roth at [k.roth@mmf.umn.edu](mailto:k.roth@mmf.umn.edu), 612-625-0336, or 800-922-1663.



See how it's done at [www.mmf.umn.edu/mb/pizza](http://www.mmf.umn.edu/mb/pizza).

## A piece of the pie


### Alumnus rolls out a new book— on pizza-making

WHAT COULD BE BETTER than homemade bread in five minutes a day? Homemade pizza!

Jeffrey Hertzberg, M.D., M.S., a resident alumnus in internal medicine and coauthor of the popular bread-baking books *Artisan Bread in Five Minutes a Day* and *Healthy Bread in Five Minutes a Day*, teamed up again with pastry chef Zoë François on a third book—*Artisan Pizza and Flatbread in Five Minutes a Day*.

The culinary duo's first book sold nearly half a million copies and clinched Amazon.com's top spot for bread books. After receiving positive responses to their pizza and flatbread recipes, they decided to release a third book.

Featured recipes include a classic Sicilian pizza, Chicago-style deep-dish pizza, and Mexican corn flatbread with tomatillo and chilies.

Hertzberg, a consultant and adjunct assistant professor in the University's Institute for Health Informatics, began baking in 1987 and has worked on perfecting his baking technique ever since. 



Visit the authors' blog to learn more at [www.artisanbreadinfive.com](http://www.artisanbreadinfive.com).

## Help us celebrate outstanding achievements

### Nominate a deserving physician for one of the following Medical School alumni awards.

Nominations must be received by May 15. Awards will be presented during the Alumni Celebration's Medical School Alumni Awards Banquet on October 4.

- The Harold S. Diehl Award is a life-time achievement award that honors individuals who have made outstanding professional contributions to the Medical School, the University, and the community. This is the Medical Alumni Society's most prestigious 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.



### Attend the inspiring White Coat rite

REMEMBER THE FIRST TIME you slipped on your white coat? Relive those memories at the Medical School's White Coat Ceremony, at 1 p.m., Friday, August 10, at the Ted Mann Concert Hall. First-year medical students complete their orientation week by donning their white coats for the first time, then taking an oath to uphold professionalism and humanitarianism in medicine. This inspiring rite of passage is now a Medical School tradition, and alumni are invited to join faculty as they welcome first-year students into the world of medicine. [MIB](#)



Family members gather to support first-year medical students as they don their white coats for the first time.

- The Early Distinguished Career Alumni Award honors physicians for exceptional accomplishments within 15 years of medical school graduation.
- The Alumni Philanthropy and Service Award recognizes alumni who have made notable contributions to medicine and have supported the Medical School through philanthropy.

For more information, contact Katrina Roth at 612-625-0336 or [k.roth@mmf.umn.edu](mailto:k.roth@mmf.umn.edu), or visit [www.mmf.umn.edu/alumni/awards](http://www.mmf.umn.edu/alumni/awards).

# Scholarship Winner | Noah Wride

## Embracing Hopi culture on the journey to becoming a doctor

WHEN SECOND-YEAR MEDICAL student and scholarship winner Noah Wride compares becoming a physician to running a marathon, it's not an idle metaphor. Wride has tackled two marathons since moving to Minnesota, and he knows a little something about discipline and perseverance.

Having first explored medicine as a high school student in American Fork, Utah, while participating in an outreach program for Native American scholars at the University of Utah School of Medicine, Wride knows he's in it for the long haul.

A member of the Hopi nation, Wride grew up fascinated by biology and the natural world. "I'd collect bugs. ... I really enjoyed being outside, and I had all kinds of pets," he recalls.

That interest turned to research when he participated in the Expanded Indian Nations Program at the Utah medical school and worked with scientist E. Dale Abel, M.D., Ph.D., on the use of hormones to treat muscle-wasting disorders.

His parents and grandparents nurtured such intellectual passions in Wride, who is a direct descendant of Hopi Chief Loloma — and proud of his heritage. In the late 19th century, Loloma traveled to Washington, D.C., to assert the tribe's right to enjoy its land and practice the Hopi religion. Returning home, Loloma spoke to his people about Western education as a necessary means for survival:

*"My children, let us not be afraid of the days to come. The [white] way of life is here to stay and we must accept that. I feel in my heart that we can find a way to survive as a people. I say to you all... learn the white man's tongue and learn how he thinks. Learn his ways so that we can all survive with it."*

SOURCE: Hopi Education Endowment Fund

"I grew up hearing that story all the time. I've been taught about Hopi culture and history for as long as I can remember," Wride says. "[Chief Loloma] is one of my grandma's heroes. She has this picture of him on a donkey, riding off into the desert. That picture sticks in my mind."

So does the lack of access to medical care Wride has observed on visits to the Hopi reservation in Arizona. "I'm very aware that there's little access to health care — and to health care education — for Native Americans," Wride says. "Hopefully, I can help with that."

### Eager to give back

The desire to give back is a recurring theme for Wride, who says, "I feel like, to a large extent, I'm here today because of outreach programs. At some point in my career, I want to be able to give the same opportunities, the same guidance, to somebody else."

Wride's Minnesota role models include his adviser, internist and associate professor of medicine Peter Weissmann, M.D.,



and assistant professor of medicine Brian Sick, M.D., medical director of the Phillips Neighborhood Clinic, which provides accessible, culturally appropriate health care to underserved patients in Minneapolis. "It's great to get to know these doctors who are very good at what they do, but also good people," Wride says.

"I'm grateful to have such a strong support system — I feel like I'm at the right place," he adds. That support includes the

#### WEB EXTRA



Watch Noah Wride play jazz improv at [www.mmf.umn.edu/mb/noah](http://www.mmf.umn.edu/mb/noah).





PHOTO: JIM BOVIN

An accomplished jazz musician, Noah Wride says playing the piano after a long day melts away the stress of medical school.

### Renaissance man

Wride remains enthusiastic about endocrinology but also has a growing interest in emergency medicine. “I like working with people; I want a career where I can see a wide diversity of people with a wide range of problems.”

Whatever specialty he chooses, Wride plans to seek balance in his life. Spending time outdoors is just one way he recharges.

He’s also an accomplished jazz pianist. “I don’t know what I’d do if I couldn’t come home after a long day and sit down at the piano. The stress just melts away,” he says. “You can’t let medicine be everything [or] you’re going to burn out.”

And there’s running. Wride keeps his marathon experience in mind as he works toward becoming a doctor. “The amount of schooling it takes to even get here is huge ... and then finishing med school, and then your residency, and then a fellowship, it’s almost like it never ends.” But he’s enjoying the journey—just as he relishes the challenge of running the Twin Cities Marathon.

“I don’t think there’s any feeling that equals crossing the finish line. It’s almost a spiritual feeling to finally get to your destination.” <sup>[MIB]</sup>

By SUSAN MAAS, a freelance writer living in Minneapolis

Cassius Ellis Scholarship, which honors the late Cassius M.C. Ellis III, M.D. A longtime clinical professor in the Department of Surgery, Ellis also was the first assistant dean for minority students at the Medical School. Wride says he’s honored to hold a scholarship that recognizes Ellis and his commitment to increasing diversity in medicine.

## Alumni Connections

### MERC cuts put clinical training at risk

MINNESOTA HOSPITALS AND CLINICS are feeling the pinch of 2011 state legislation that severely reduces funding to Medical Education and Research Costs (MERC). The cuts jeopardize University of Minnesota Medical School training programs, partner hospitals, and, ultimately, access to health care in Minnesota.

The state program compensates hospitals, clinics, and other health care providers for a portion of the costs of clinical training for health professional students and residents. As a result of the cutbacks, some hospitals and clinics must reduce the number of residents they train or stop training medical students entirely.

The Legislature’s MERC allocation in 2010 was \$63.6 million, including \$5.35 million in direct payments to the University of Minnesota and University of Minnesota Medical Center, Fairview (UMMC). In 2011, MERC funding for hospitals and clinics was reduced by more than 50 percent to \$31.5 million, and direct payments to the University and UMMC were eliminated.

The direct payments helped to fund training for dental students at dental clinics in the Twin Cities, Willmar, and Hibbing; served as a federal match for the University’s Area Health Education Center programs statewide; and assisted in financing medical clinics in underserved areas. <sup>[MIB]</sup>

### You can help

*Please let your colleagues and community leaders know that MERC reductions threaten the training of Minnesota’s future health care providers. Get involved at [www.supporttheu.umn.edu](http://www.supporttheu.umn.edu), or contact the Medical Alumni Society through Katrina Roth at [k.roth@mmf.umn.edu](mailto:k.roth@mmf.umn.edu) or 612-625-0336.*

## In Memoriam

**RICHARD E. ALPER, M.D., PH.D.**, Class of 1972, Ramsey, Minn., died August 4 at age 77. Dr. Alper conducted electron microscopy research, taught microbiology, practiced pediatrics, and served as medical director of Anoka County Corrections. He is survived by his wife, Gretchen, and 2 children.

**JACK R. BROKKEN, M.D.**, Class of 1951, Lancaster, Calif., died April 1, 2011, at age 88.

**DAVID W. BURGAN, M.D.**, Class of 1961, Polson, Mont., died December 4 at age 75. Dr. Burgan practiced general medicine and diagnostic radiology and served as chief of the Department of Diagnostic Imaging at the Missoula Community Medical Center. He is survived by his wife, Marjorie; 3 children; and 3 grandchildren.

**HARRY F. BURICH, M.D.**, Class of 1947, Rochester, Minn., died January 16 at age 95. Dr. Burich was cofounder of and first surgeon to join the Olmsted Medical Group in southeastern Minnesota. He is survived by his wife, Grace; 5 children; 13 grandchildren; and 1 great-grandchild.

**DONALD R. DAGGETT, M.D.**, Class of 1946, Minneapolis, died October 23 at age 89. He is survived by his wife, Donna; 3 children; and 1 grandchild.

**JOHN W. DOUGHERTY, M.D.**, Class of 1943, Jupiter, Fla., died November 8 at age 94. Dr. Dougherty taught dermatopathology at Cornell Medical School. He was preceded in death by his wife, Wilma, and is survived by 3 children and 2 grandchildren.

**GERALD G. EKLUND, M.D.**, Class of 1956, Bonita, Calif., died September 20 at age 79.

**VIRGIL E. ERICKSON, M.D.**, Class of 1951, Morgan Hills, Calif., died November 30 at age 94. Dr. Erickson practiced medicine and established ambulatory clinics at the Santa Clara Valley Medical Center in California. He was preceded in death by his wife, Isabel, and is survived by 2 sisters-in-law and several nieces and nephews.

**WILLIAM M. FEIGAL, M.D.**, Class of 1943, Peoria, Ariz., died November 26 at age 91. He is survived by his wife, Marian; 4 children; 9 grandchildren; and 10 great-grandchildren.

**HAROLD J. FLETCHER, M.D.**, Class of 1967, Lake Madison, S.D., died August 12 at age 73. Dr. Fletcher practiced family medicine and surgery. He is survived by his wife, Karen; 5 children; and 6 grandchildren.

**JACK E. GEIST, M.D.**, Class of 1946, Milwaukee, Wis., died December 24 at age 89. Dr. Geist practiced medicine and psychiatry and taught at Georgetown University, Marquette University, and the University of Wisconsin–Madison. He was preceded in death by his wife, Beverly, and is survived by 3 children and 4 grandchildren.

**FREDERICK D. HATHAWAY, M.D.**, Class of 1970, Lincoln, Neb., died August 13 at age 66. Dr. Hathaway practiced orthopaedic surgery. He is survived by his wife, Kathryn; 4 children; and 6 grandchildren.

**CLARENCE A. JENIKE, M.D.**, Class of 1960, Lake Oswego, Ore., died December 15 at age 86. He is survived by his wife, Adelle; 1 child; and 2 grandchildren.

**ARTHUR G. JOHNSON, M.D.**, Class of 1960, Gig Harbor, Wash., died November 26 at age 89. Dr. Johnson worked as a pharmacist and later practiced general medicine. He was preceded in death by his wife, Marty, and is survived by 3 children, 5 grandchildren, and 13 great-grandchildren.

**ALLAN R. LEIDER, M.D.**, Class of 1945, Woodinville, Wash., died October 30 at age 90. Dr. Leider was a psychiatrist. He was preceded in death by his wife, Louise, and 1 child. He is survived by 2 children and 2 grandchildren.

**ELMER W. LIPPMANN JR., M.D.**, Class of 1964, Mankato, Minn., died September 4 at age 76. Dr. Lippmann practiced orthopaedic surgery. He is survived by his wife, Kathryn; 3 children; and 4 grandchildren.

**EARL A. LOOMIS JR., M.D.**, Class of 1945, Greenport, N.Y., died May 10, 2011, at age 89. Dr. Loomis was a child psychiatrist. He is survived by his wife, Muriel; 5 children; 3 grandchildren; and 4 great-grandchildren.

**ROBERT M. LUNDBLAD, M.D.**, Class of 1949, Palm Desert, Calif., died December 8 at age 91. Dr. Lundblad practiced rural general medicine and ophthalmology. He was preceded in death by his wife, Norma. He is survived by 3 children, 4 grandchildren, and 2 great-grandchildren.

**THOMAS H. MCPARTLIN, M.D.**, Class of 1968, North Oaks, Minn., died November 4 at age 68. Dr. McPartlin founded Neurologic Consultants in St. Paul and Head and Neck Pain Centers of Minnesota. He also served as chief of staff at St. Paul's Midway Hospital and taught at the University of Minnesota. He is survived by his wife, Barbara, and 1 child.

**LYNN M. MUREL, M.D.**, Class of 1991, Eau Claire, Wis., died September 10 at age 53. Dr. Murel practiced medicine and served as campus physician at the University of Wisconsin, Stout. She is survived by 1 child and many relatives and friends.

**DAVID A. RANDALL, M.D.**, Class of 1953, Hopkins, Minn., died August 29 at age 83. Dr. Randall practiced internal medicine and rheumatology. He is survived by his wife, Nancy, and 3 children.

**JAMES M. RAUER, M.D.**, Class of 1975, Dallas, Texas, died August 2 at age 61.

**IRWIN F. SCHAFFHAUSEN, M.D.**, Class of 1952, Miami, Fla., died August 21 at age 93. Dr. Schaffhausen practiced orthopaedic surgery. He was preceded in death by his wife, Mildred. He is survived by 3 children and 6 grandchildren.

**STANLEY J. SIMONS JR., M.D.**, Class of 1961, Pendleton, Ore., died May 8, 2011, at age 74. Dr. Simons practiced ophthalmology. He was preceded in death by his first wife, Joan. He is survived by his second wife, Kayella; 5 children; and 8 grandchildren.

## Alumni Connections

**LORIN C. SPENCER, M.D.**, Class of 1951, Upland, Calif., died May 11, 2011, at age 86. Dr. Spencer was head of pathology and president of the medical staff at Pomona Valley Community Hospital in California. He also was a leader of the American Red Cross blood program in Los Angeles and Orange counties. He was preceded in death by his wife, Annabel, and 1 child. He is survived by 6 children and 9 grandchildren.

**BERNARD P. STROUTH, M.D.**, Class of 1945, Boise, Idaho, died May 1 at age 89. Dr. Strouth worked with the American Cancer Society, served as a chief of staff at the St. Alphonsus Regional Medical Center in Boise, and served as a high school team physician. He was preceded in death by his first wife, Mary. He is survived by his second wife, Barbara; 2 children; and several grandchildren and great-grandchildren.

**JOSEPH M. TAMBORNINO, M.D.**, Class of 1956, Edina, Minn., died January 31 at age 80. Dr. Tambornino was an orthopaedic surgeon and chief of staff at Fairview Southdale Hospital. He also taught at the University of Minnesota Medical School and Hennepin County Medical Center. He was preceded in death by 2 children. He is survived by his wife, Cynthia; 7 children; and 17 grandchildren.

**GERALD J. TAYLOR, M.D.**, Class of 1941, Gibsonia, Pa., died December 8 at age 94. Dr. Taylor practiced psychiatry. He is survived by his wife, Amanda; 1 child; and 3 grandchildren.

**FRANCIS T. THOMAS, M.D.**, Class of 1964, Birmingham, Ala., died November 25 at age 74. A pioneering transplant surgeon, Dr. Thomas led the first human kidney and pancreas transplants in eastern North Carolina and was known for several translational research milestones. Among his achievements was the first demonstration that human hearts can withstand long-distance transport for transplantation. Dr. Thomas is survived by his wife, Judith; 3 children; and 4 grandchildren.

**FRANKLIN A. NEVA, M.D.**, Class of 1946, Billings, Mont., died October 16 at age 89. Dr. Neva directed the Laboratory of Parasitic Diseases at the National Institute of Allergy and Infectious Diseases and established a clinical service at the National Institutes of Health to treat patients from developing countries. He advanced the study of malaria and other diseases caused by parasites, conducted research

aimed at developing a polio vaccine, and helped isolate the rubella virus. In 1996, he received the Donald Mackay Medal from the American Society of Tropical Medicine and Hygiene for outstanding work in tropical health. He was preceded in death by his wife, Alice, and is survived by 3 children, 6 grandchildren, and 2 great-grandchildren.



PHOTO: NIH

**EUGENE C. OTT, M.D.**, Class of 1954, Edina, Minn., died January 12 at age 82. A family practitioner, Dr. Ott taught at the University of Minnesota, was medical director of Metropolitan Health Plan, and founded a program to improve the health of families and infants in Minneapolis. He was president of the Hennepin County Medical Society and Hennepin County Academy of Family Physicians. An active

volunteer, he received the United Way's Mary M. Gates Achievement Award and WCCO's Good Neighbor Award. He also volunteered in Haiti, Mexico, and South Africa. After retiring, he became medical director of St. Mary's Health Clinics. He is survived by his wife, Mary Lou; 11 children; 19 grandchildren; and 3 great-grandchildren.



**BRIAN C. TORGERSON, M.D.**, Class of 1978, Vass, N.C., died February 4 at age 61. He practiced internal medicine and founded a nonprofit medical mission organization. He is survived by his wife, Candace; 3 children; and 2 grandchildren.

**DELMONT M. ULRICH, M.D.**, Class of 1943, Seattle, Wash., died April 22, 2011, at age 92. Dr. Ulrich practiced internal medicine and taught at the University of Washington Medical School. He was preceded in death by his wife, Doris (Swanie). He is survived by 3 children and 5 grandchildren.

**HORATIO (RAY) P. VANCLEVE III, M.D.**, Class of 1943, Winston-Salem, N.C., died September 21 at age 92. Dr. VanCleve practiced family medicine in various Minnesota cities and served as mayor of Dodge Center, Minnesota. He also established the

Department of Family Medicine at Wake Forest University. He was preceded in death by his first wife, Elizabeth. He is survived by his second wife, Patricia; 6 children; 6 grandchildren; and 2 great-grandchildren.

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

**EDWARD S.A. WEGRZYNOWICZ, M.D.**, Class of 1980, Hopkins, Minn., died October 3 at age 56. He was preceded in death by his parents and one sibling. He is survived by several relatives and special friend Ruth Wachtel.

# Supporting the troops during World Wars I and II

Every war requires that doctors and nurses become soldiers. As the prospect of conflict with Germany loomed over the United States in October 1916, the Surgeon General asked American medical schools to establish base hospitals—corps of surgeons and nurses who would train

together and serve overseas. The University of Minnesota Medical School, with support from Mayo Clinic, began organizing Base Hospital No. 26 in the spring of 1917.

A group of Minneapolis citizens raised \$15,000 to purchase needed equipment, according to historian Leonard G. Wilson. Ella Pennington, the wife of prominent railway executive Edmund Pennington, helped organize a patriotic baseball game, raising \$3,600 for a contingency fund. Helen Pillsbury gave her Packard

touring car, while C.C. Bovey donated a motorcycle with a side car.

By midsummer, Base Hospital No. 26 was equipped, staffed, and waiting for the call to active duty. In addition to surgeons, other doctors, and nurses, the personnel included wireless operators, telegraphers, engineers, carpenters, machinists, x-ray specialists, plumbers, undertakers, plasterers, ambulance drivers, pharmacists, tailors, barbers, stenographers, and clerks. Finally, in December 1917, the War Department

mobilized the unit, which arrived at its destination of Allerey, France, in June 1918.

Almost immediately, Maj. Marx White, M.D., a University professor who served as chief of medicine for the base hospital, faced a crisis. A large convoy of wounded men was on its way from the front, but the hospital's medical equipment had not yet arrived. White turned to the contingency fund to purchase medical supplies and surgical dressings. The first train carrying injured soldiers pulled in a couple of days later, and the surgeons set to work in their hastily assembled operating room. By the time Base Hospital No. 26 was demobilized in January 1919, it had cared for nearly 6,000 sick and wounded soldiers.

## Back into action for WWII

As the United States prepared for World War II, once again the Surgeon General asked the University of Minnesota Medical School to organize a reserve unit.

After the United States formally entered the war in December 1941, the hospital unit prepared for deployment. Owen Wangensteen, M.D., Ph.D., began a fund-raising effort to create a discretionary account for the unit's commanding officer to purchase supplies and equipment. The Medical School put together a course on emergency surgery for the unit, with topics such as "Surgery under Wartime Conditions," taught by Wallace Cole, M.D., "Pathologic Physiology of Various Types of Injury Often Accompanied by Shock," taught by E.T. Bell, M.D., and "The Nervous Factor in Traumatic Shock," taught by Herman Kabat, M.D., Ph.D.



A look inside Base Hospital No. 26 in France, 1918.



# A Look Back

LEFT Laundry facilities at General Hospital No. 26 in Algeria, 1943.

BELOW Outside of the laboratory at Base Hospital No. 26, 1918.



The departure of this hospital unit, trained here, brings this war one step closer to us. Only through serving the nation can the University serve itself.

– W.C. Coffey, University of Minnesota president, at a farewell dinner in February 1942

Before the Medical School enlistees shipped out, the University held a farewell dinner in their honor in the main ballroom of Coffman Memorial Union. President W.C. Coffey noted, “Since the inception of the defense program we in the University have repeatedly declared that education is defense. As evidence I would point out that members of the staff from all ranks have now been drawn into the defense program somewhere. The eve of departure of this hospital unit, trained here, brings this war one step closer to us. ... Only through serving the nation can the University serve itself.”

On February 15, 1942, the unit left Minnesota for training, eventually setting up General Hospital No. 26 in Algeria. The hospital later moved to Italy, where it remained throughout the war. General

Hospital No. 26 served more than 8,000 patients and was the longest serving hospital in the Mediterranean Theater. [MIB](#)

By freelance writer and editor LEE ENGFER and ERIK MOORE, the University of Minnesota’s lead health sciences archivist

*Read more about this topic in Medical Revolution in Minnesota: A History of the University of Minnesota Medical School, by Leonard G. Wilson (1989), and A History of the Twenty-sixth General Hospital, February 1, 1942–September 14, 1945, edited by George S. Bergh and Reuben F. Erickson (1948).*

Archival materials related to both hospital units are available for research at the University of Minnesota Archives.

### WEB EXTRA



See historic snapshots of the U’s WWI and WWII base hospitals at [www.mmf.umn.edu/mb/ww](http://www.mmf.umn.edu/mb/ww).

PHOTOS: JIM BOVIN



## The envelope, please ...

ON MARCH 16, 213 graduating University of Minnesota Medical School students each opened a small envelope containing big news: the site of their residencies.

Here are some highlights of this year's Match Day, a national rite of passage that happens at the same time at medical schools across the country:

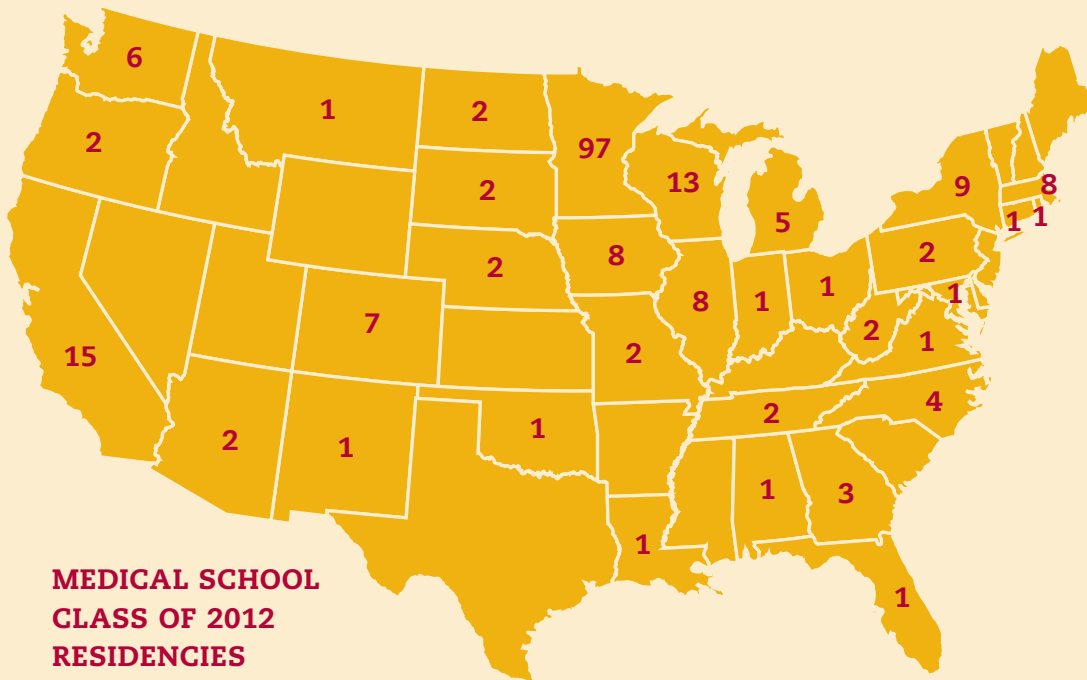
- 97 graduating University of Minnesota Medical School students matched to 12 locations across the state.
- 41 students will stay at the University of Minnesota for their residencies.
- 38 students matched in family medicine and another 36 matched in internal medicine.
- 22 students — about 10 percent of the graduating class — will complete residencies in emergency medicine.



## Match Day

TOP LEFT Chee Vang (in glasses) congratulates classmate Hsiang-Jer Tseng on his match. Tseng matched to a radiology residency at Emory University, while Vang matched to a family medicine residency at the University of Minnesota.

ABOVE Dan Wheeler, who will enter an internal medicine residency at University of California, San Francisco, gets a hug from classmate Cori Russell. Russell matched to an internal medicine residency at Brigham and Women's Hospital in Boston.



**MEDICAL SCHOOL CLASS OF 2012 RESIDENCIES**

SOURCE: UNIVERSITY OF MINNESOTA MEDICAL SCHOOL

SIX OF 219 GRADUATES DEFERRED RESIDENCY.

# Minnesota Medical Foundation

The Minnesota Medical Foundation is a nonprofit organization that provides support for health-related research, education, and service at the University of Minnesota Medical School and School of Public Health.

For more information or to update your address, please contact us at:

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McNamara Alumni Center  
University of Minnesota  
200 Oak Street SE, Suite 300  
Minneapolis, MN 55455-2030

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