

Medical Bulletin

Calming the storm

The University launches a new era
in epilepsy research and care

WINTER 2008 Bold initiatives bring health care to the homeless □ Teen health specialists attend to the risk-filled years □ Alumnus goes the distance in sports medicine □ A 1930s burger binge for science



DEAR FRIENDS,

This issue's cover story describes the work of University clinicians and researchers who are exploring innovative approaches to treating and curing epilepsy. They are collaborating with pharmacologists, biomedical engineers, and even doctors of veterinary medicine to find new ways to make epilepsy manageable for patients like 7-year-old Colby Beaulieu from Barnum, Minnesota, and 34-year-old Norys Andrea, a native of Venezuela.

While these doctors use high-resolution structural and functional imaging, deep-brain stimulation, and other leading-edge technologies, physicians across campus are applying equally important low-tech approaches to patient care.

As you will read in "Living on the streets," several University initiatives aim to improve the health of Minnesota's homeless population by providing such basics as access to care and counseling.

John Song, M.D., M.P.H., and colleagues from the Center for Bioethics are embarking on a study to find out whether counseling encourages

homeless people to prepare advance directives and how those directives influence end-of-life-care.

Another study, by Kolawole Okuyemi, M.D., M.P.H., director of the Medical School's Program in Health Disparities Research, will evaluate the success of smoking-cessation programs, including motivational counseling, in homeless populations.

Our "Targeting teen health" story shows the importance of screening to help teens survive risk-filled years that too often involve drunk driving, accidents, depression, drugs, and violence. You'll find that we're a pacesetter in adolescent health.

Finally, don't miss our call to contact your legislators and urge them to support the University's proposal for funding biomedical research buildings and programs (page 27). We need more state-of-the-art research space to attract and retain top faculty members and to facilitate their work and their collaboration.

Deborah E. Powell, M.D.

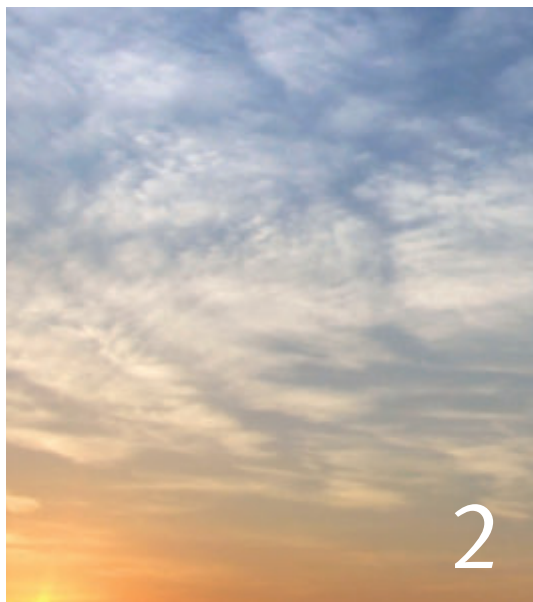
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COVER IMAGE: THUNDERSTORM OVER THE PLAINS, WWW.VEER.COM



Calming the storm

The University launches a new era in epilepsy research and care

To the ancients, it was a sign of connection with the spirit world. To Napoleon, Handel, Kierkegaard, Socrates, and Dostoevsky, it was an unwelcome intruder, bursting unannounced into their brains at unexpected and unexplained times. To 50 million people today, it's a disruptive disease that injects their lives with uncertainty and stigma.

To three new faculty members at the University of Minnesota, epilepsy is a problem they aim to solve. Bolstering the U's growing emphasis on the brain, Aviva Abosch, M.D., Ph.D.; Thomas Henry, M.D.; and Steven Rothman, M.D., are exploring a variety of innovative approaches to treating and curing the disorder.

Abosch, assistant professor and director of epilepsy and functional neurosurgery in the Department of Neurosurgery, came here in 2005, offering the option of surgery to individuals whose epilepsy cannot be controlled adequately by medication. Henry, director of the Medical School's Epilepsy Care and Research Program and a professor of neurology with clinical expertise and research interests in neuroimaging and epilepsy diagnosis,

joined her last summer. Rothman, who joined the University as director of the Division of Pediatric Clinical Neuroscience in July, focuses his clinical attention on childhood epilepsy, which can have different causes and symptoms than adult epilepsy. He also is exploring new technologies that may stop or prevent seizures.

Together, the three are not only bringing new dimensions to patient care but are also conducting translational research ranging from enhancing the effectiveness of conventional drug therapies to venturing deep within the brain in novel ways.

"We have some new, interesting faces at the University of Minnesota in epilepsy," says David Anderson, M.D., head of the Department of Neurology. "This is a new era."

Brain storm

Most of the time, our brains behave like orderly—though unfathomably complex—electrical circuits. Impulses travel from one cell to another, transmitting messages that allow us to interact with the rest of world in an organized, integrated way.

But for one out of a hundred of us, that's not always the case. Intermittently, and often unpredictably, the circuits in some brains erupt in a brief but riotous storm of electrical activity known as an epileptic seizure. Sometimes seizures can be linked to a specific cause, such as a head injury or brain cancer. But more commonly, they are just there—threatening to temporarily disrupt functions that affect every aspect of life.

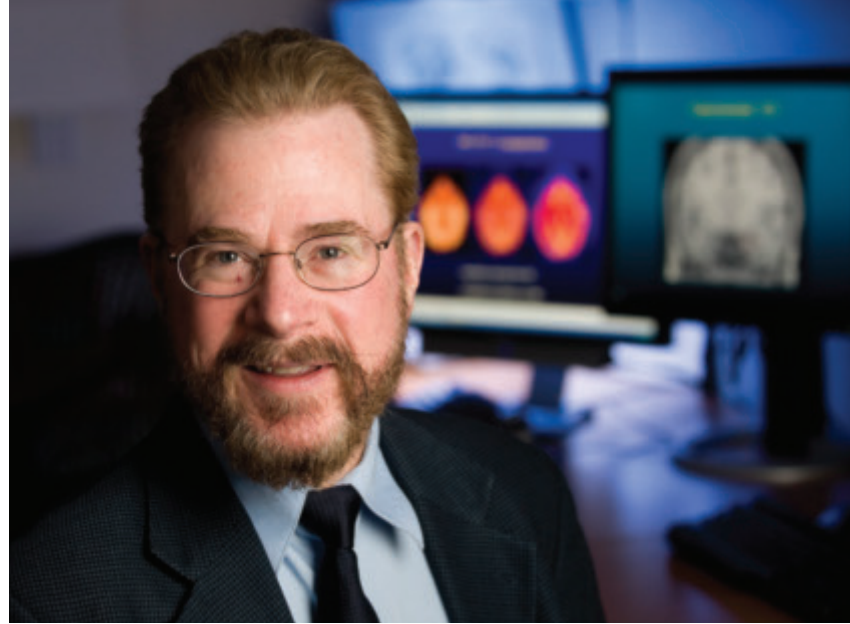
“Epilepsy is much more complicated than the average person recognizes,” says neurologist Ilo Leppik, M.D., professor and head of the College of Pharmacy’s Epilepsy Research and Education Program. For three decades, Leppik has been helping people with epilepsy regain control by regulating their seizures with medications.

That approach works for many individuals with the disorder. But not all. Because epilepsy is not a single problem with a single cause, there is no single treatment that works for everyone—and in some cases, no treatment that works, period.

“If you look at all patients with epilepsy, about a third of them have seizures that are quickly controlled with standard medications with few or no side effects,” Henry says. “Perhaps another third have seizures that are fully controlled or almost controlled, but they experience significant side effects from their medications. Then about a third don’t get any seizure control at all.”

Henry uses EEG monitoring to visualize the electrical characteristics of seizures. He then evaluates the results to distinguish seizures caused by epilepsy from seizures resulting from other causes. The patients he sees are the ones for whom diagnosis is difficult.

PHOTO: SCOTT STREBLE



Thomas Henry, M.D., who directs the Medical School's Epilepsy Care and Research Program, uses neuroimaging to help find better treatment options for people with epilepsy.

Within three weeks of surgery, Norys Andrea was starting class at the University. In the fall, she began work as a teacher's aide at a local elementary school. "It was incredible. It let me start my life again."

PHOTO: SCOTT STREBLE



A candidate for surgery

Some patients who have epileptic seizures that are not controlled by medication can be cured through brain surgery. If imaging shows that the seizure arises in a certain area of the brain—the hippocampal region of the temporal lobe—Abosch may be able to calm the storm within by removing the offending portion.

Norys Andrea was what Abosch calls a "pretty characteristic" candidate for such surgery. A native of Venezuela, Andrea has been experiencing epileptic seizures since she was four years old, she suspects as a result of a high fever. As a young adult, she began an exciting career as a pharmaceutical sales representative. She loved the part she played in helping people get the medical care they needed. But her condition worsened with the job stress, forcing her to give it up. Uncontrolled seizures meant no driving, and that meant no sales.

"We tried all the treatments on the market," she says, "and they didn't work."

When Andrea moved to Minnesota three years ago, she was experiencing one or two seizures a month, and her medications provided no relief. Fortunately, her physician back home had referred her to Miguel Fiol, M.D., associate professor of neurology at the University. Fiol told Andrea that her seizures originated in a part of her brain that might make her a good candidate for surgery. He referred her to Abosch, who sent her through a battery of tests that confirmed Fiol's suspicions and indicated that the proposed surgery would not impair Andrea's quality of life.

"Everything lined up with respect to her history, preoperative imaging, neuropsychological testing, and EEG analysis," Abosch says. "Once all of those things line up, you can proceed."

Andrea didn't hesitate. "Stay like I was, or change my life forever? This is not life. I cannot drive. I have to depend on other people," she remembers thinking. "I was positive and confident I wanted to go through with the surgery."

THREE DECADES OF RESEARCH

IT WAS THE PERFECT combination: a young physician interested in the brain and growing federal interest in funding epilepsy research. In the 1970s brain research in the United States—and in the laboratory of Ilo Leppik, M.D.—began to focus on the disorder.

For the past 30 years, Leppik, a neurologist, clinical professor, and head of the College of Pharmacy's Epilepsy Research and Education Program at the University of Minnesota, has been working to develop new drugs to treat epilepsy.

On June 12, 2007, in a six-hour operation, Abosch opened up the right side of Andrea's skull, then used suction to remove a portion of her brain the size and shape of a person's thumb. After four days in the hospital, Andrea was home again. She hasn't had a seizure since.

"It was incredible," Andrea says. "It let me start my life again." Within three weeks, she was starting class at the University. In the fall, she began work as a teacher's aide at a local elementary school.

On November 16—her 34th birthday—Andrea received the best news yet: Fiol gave her the okay to apply for a driver's license. "It was the best birthday gift!" she says. "I feel ready to look for the job of my dreams again. I feel like I'm the new Norys."

Deep in the brain

Surgery is not the answer, however, for everyone who experiences epileptic seizures that don't respond adequately to drugs. To determine whether they are candidates for surgery, patients

undergo brain imaging to find out what key structures and functions—if any—arise at the site of seizure onset.

Andrea was one of the lucky ones: Her seizures started in a part of her brain she could function without, and the imaging results were unambiguous. In some individuals, the seizures originate in a part of the brain that's too close to brain tissue that controls critical functions, such as speech or movement. In others, the site of seizure onset cannot be clearly determined, making them unsuitable for surgery as well.

"What do you do with those people?" Abosch asks. "As a surgeon, I want to fix the problem."

One approach Abosch and Henry are exploring together is using high-resolution structural and functional imaging to identify locations in the brain—other than that in which the

PHOTO: SCOTT STREBLE



ABOVE Neurosurgeon Aviva Abosch, M.D., Ph.D., is exploring the use of deep-brain stimulation to treat epilepsy.

FACING PAGE When medications failed to relieve the epileptic seizures Norys Andrea had experienced for 30 years, she underwent brain surgery at the University. Now seizure-free, she feels like "the new Norys."

He's had a hand in the development of all eight of the experimental drugs that have been approved and marketed in the past decade.

"Epilepsy is not like pneumococcal pneumonia, where you have one bacterium [that is the cause]," he says. "Epilepsy can be caused by any number of things. For some forms, only a few specialized drugs work; other drugs may make it worse." Currently, he says, a dozen different medications are prescribed in various combinations tailored to the needs of individual patients.

Leppik, who received the 2007 William G. Lennox Award—the highest honor bestowed by the American Epilepsy Society for lifetime achievement—has had a role in evaluating the safety of deep-brain stimulation, investigating the use of electrical devices to sense the onset of seizures, and developing new methods of delivering epilepsy drugs. He's currently focusing on the epidemiology of epilepsy in nursing home residents and, with Medtronic, Inc., on the use of electrical stimulation of the brain to stop seizures.

He's also working with Jim Cloyd, Pharm.D., and veterinary medicine researcher Ned Patterson, D.V.M., to test new approaches to treating canine epilepsy that could translate into new therapies for human patients.

"We're hoping," he says, "that by developing new drugs in dogs first, we can speed the process in humans."

Animal studies have shown that rapid, localized cooling of the right spot in the brain can stop a seizure in its tracks.

seizure originates—where surgery might make a difference.

“Mapping out areas of brain function is an important new research area,” Henry says. Such mapping, he hopes, will eventually allow doctors to perform surgery that stops seizures originating outside the temporal lobe—without disrupting critical brain function.

Mapping also plays a key role in another novel therapy Abosch and Henry are investigating: deep-brain stimulation, or DBS. This approach involves implanting an electrode in the brain, then delivering electrical current via a pacemaker-like device before or at the onset of a seizure.

Abosch already uses DBS to calm tremors in patients with Parkinson’s disease. Given a better understanding of the right place in the brain and the right timing and dose of electricity, she thinks it could make a difference for epilepsy patients, too. As a possible treatment for epilepsy, stimulation of a part of the brain known as the anterior nuclear group of the thalamus is currently being tested in clinical trials. Abosch and Henry are exploring whether DBS might work even better in other parts of the brain.

“We’re looking for something that is more obviously a home run,” Abosch says.

CARING FOR COLBY

WHAT DOES IT TAKE to stop an epileptic seizure? For Colby Beaulieu, it’s taken the best that modern medicine has to offer, along with a doctor who just won’t quit.

Colby, a fun-loving first-grader, was born May 30, 2001, with blond hair, bright blue eyes, and a malfunctioning tumor-suppressor gene. As a result, his brain is riddled with benign tumors—53 of them.

His resourceful nervous system has learned to live with most of them. But the tumors along one side of his brain irritate critical tissue, causing seizures when he’s asleep.

The seizures started when Colby was 9 months old. After two misdiagnoses, his parents, Candy and Chad Beaulieu, took

him to the University of Minnesota, where pediatric neurologist Lawrence Charnas, M.D., Ph.D., quickly diagnosed tuberous sclerosis, a rare genetic disorder.

“Dr. Charnas looked at the MRI and asked a couple of questions, and within 30 seconds he knew what was wrong,” Candy says.

Charnas put Colby on medication to control the seizures, but it hindered his ability to learn to walk and talk like other kids his age. After learning that the tumors likely couldn’t be removed without permanently harming Colby’s motor function, the Beaulieus decided to try vagal nerve stimulation (VNS). This FDA-approved therapy involves implanting an electrode that every few minutes gives a tiny jolt to a nerve running up the front of the neck. Colby’s seizures stopped for a full, medication-free, year.

Unfortunately, in November 2003, they started up again—with a vengeance. At first it was two or three seizures a night.

Then Colby started to get cluster seizures, dozens one right after another.

Fortunately, Charnas could offer another option. Last April Colby started on levetiracetam, a novel medication that University of Minnesota epilepsy researcher Ilo Leppik, M.D., helped develop a decade ago. Colby had tried the drug before the VNS implant without success. But this time it worked like a charm: Colby hasn’t had a seizure since.

The challenges aren’t over for Colby. Tuberous sclerosis affects other organs besides the brain, so many of his days involve doctors, and Charnas will continue to monitor brain involvement.

But for now things are looking good, thanks to years of discovery leading to new ways to treat epilepsy—and a doctor who just won’t quit.

“It’s been a long road,” Candy says. “But we’re in the right place. And that’s what’s important.”



Other innovative approaches

Rothman, whose focus is translational research, is exploring new techniques for patients whose epilepsy is not amenable to drugs or conventional surgery, and he has found a surprising ally in the electronics industry.

One innovation attracting Rothman's attention is a refrigerator the size of a watermelon seed that has been developed to help cool the central processing units of computers and other electronic components. Animal studies have repeatedly shown that rapid, localized cooling of the right spot in the brain can stop a seizure in its tracks. Why not, Rothman wonders, implant into the brains of people with epilepsy a miniature cooling device that can deliver a quick chill at the right place and time to do just that?

"This technology is very effective in our animal models," he says. But there are plenty of details to refine: removing waste heat generated by the cooling process, cutting the amount of power needed, and figuring out how to anticipate or sense early seizure. In collaboration with Tay Netoff, Ph.D., assistant professor in the Department of Biomedical Engineering, Rothman hopes to begin testing inside-the-brain cooling devices within a couple of years.

Rothman is also looking into using light to help prevent or interrupt seizures. The idea, he says, is to insert a light-activated therapeutic drug, along with a light-emitting diode, into the part of the brain where the seizure is centered. The light could be turned on at the seizure onset, activating the drug and terminating the seizure.

As Rothman's research progresses, both Henry and Abosch will be welcome partners. Implanting new devices depends on precisely pinpointing seizure centers and key functional parts of the brain—an endeavor in which Henry will prove an invaluable collaborator. If the devices Rothman is developing advance to the point of clinical trials, Abosch would be the one to place them.

Abosch, Henry, and Rothman aren't alone in charting new territory. For example, in addition to testing new drugs, Fiol is studying the genetics of epilepsy in families with multiple affected individuals and exploring ways to enhance culturally sensitive epilepsy care in American Indian and immigrant populations. Among other work, Leppik has just completed a study of the safety and efficacy of deep-brain stimulation and is assessing the onset of epilepsy among nursing home patients as well as the care they receive.

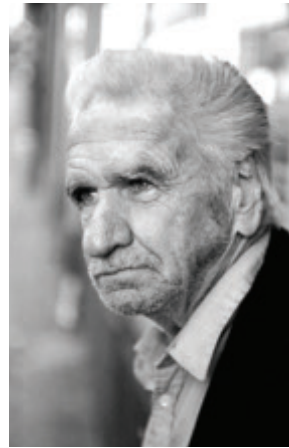
Says Abosch, "It's an exciting time and a very dynamic environment in which to be doing this work." MB

BY MARY HOFF

PHOTO: SCOTT STREBLE



Translational researcher Steven Rothman, M.D., is investigating the use of localized cooling devices and light to interrupt and prevent seizures.



Living on the streets

University initiatives improve health care for Minnesota's homeless — challenging assumptions along the way



PHOTOS BY SCOTT STREBLE

IT'S A MONDAY EVENING, and the Phillips Neighborhood Clinic is busy as usual.

The clinic, which opened its doors in 2003, is housed in the basement of Oliver Presbyterian Church, located in one of Minneapolis's poorest neighborhoods. One night a week it offers health care at reduced or no charge to uninsured patients, a significant number of them homeless.

But there's no feeling of deprivation here. A pair of Native American toddlers races down the brightly lit halls calling and laughing. Meanwhile, in a room that during the day serves as a preschool nursery, a lively group of University of Minnesota students chat as they prepare to see patients.

The students are here because the Phillips Neighborhood Clinic (PNC) isn't just a clinic—it's an innovative educational facility staffed by social-work interns and first- and second-year students in medicine, nursing, pharmacy, and physical therapy. Under the guidance of faculty preceptors, the students not only manage patient care—they also manage the clinic itself. It's an invaluable hands-on experience in the day-to-day realities of clinical care.

"As a medical student, I have courses in other disciplines, like nursing and physical therapy, but this is a robust opportunity to work in a multidisciplinary setting very early in my career," says Kristen Kleven, a



a mission statement, doing community assessments, and exploring just how such a facility would help local residents. Another pair of second-year

second-year student who volunteers at the clinic and cochairs PNC's administrative board.

"PNC is unique in that it's student run, so we look at operations, patient flow, and what can be done to improve care," Kleven says. "Working here, we can already see how teamwork affects patient care and how communication and coordination between disciplines affect outcomes."

The Phillips Neighborhood Clinic is just one public face of numerous University research and clinical initiatives aimed at helping underserved populations, including the state's growing number of homeless people, which today is estimated at about 20,000 individuals, up from 15,000 in the mid-'90s.

Offering HOPE

On the University's Duluth campus, medical students and faculty are working on plans to establish their own PNC-like clinic for their city's homeless adults.

Although the HOPE clinic—for Health of People Everywhere—is in its earliest stage of development, Duluth students are already hard at work laying the groundwork for the facility. Last year, Amanda Noska and Tria Lor, then second-year medical students, began looking at potential sites, developing

students, Hope Pogemiller and Tessa Pierson, continues that work this year.

"We are in the infancy of exploring a student-run facility that would be supervised by faculty here at the University," explains Ruth Westra, D.O., M.P.H., chair of the University's Department of Family Medicine and Community Health, Duluth.

Like the Phillips Neighborhood Clinic, the Duluth site would be open one night a week for two or three hours at a time and staffed by student volunteers from a range of disciplines. Currently, Duluth faculty and students are collaborating with Central Hillside United Ministry (CHUM), a homeless shelter in Duluth where second-year medical students are taking blood pressure and giving health talks to help create a presence in the adult homeless community.

While the students are providing an important community service, they clearly benefit as well, says Westra. "There's a big learning curve when it comes to caring for an underserved population and finding out their needs rather than coming in with preconceived notions," she says. "The HOPE clinic will provide our students with an opportunity to learn not only about this particular group of people but also about how the health-care professions work together to provide treatment."





Dignity at life's end

Other University initiatives are charting new territory in caring for homeless populations, and the National Institutes of Health (NIH) is taking notice.

John Song, M.D., M.P.H., a faculty member in the University's Center for Bioethics and cofounder of the Phillips Neighborhood Clinic, has a longtime interest in helping homeless people. Today, Song is about to embark on a new three-year, NIH-funded study that will combine research with clinical intervention to see whether homeless people will create living wills and whether those wills have a positive effect on their end-of-life care.

"We want to see not only if homeless people will fill out living wills but also whether they will do so at a higher rate if they have some counseling," Song explains. Ultimately, the study's goal is also to discover whether the existence of advance directives will help the homeless preserve personal autonomy over the treatment they receive at the end of life.



To conduct the study, Song and his research team, including bioethics center colleagues Dianne Bartels, R.N., Ph.D., and Edward Ratner, M.D., will work with Minneapolis homeless shelters, health-care agencies, outreach programs, and soup kitchens—eight organizations in all. It will begin with baseline surveys of homeless patrons to establish attitudes toward end-of-life care. Half of the group surveyed will be provided with living will forms and information about how to fill them out. The other half will in addition be offered advance directive counseling by staff members at Heartland Hospice and Hospice of the Twin Cities.

"We'd like to see if there is any difference between the two groups because of the intensive intervention," says Song. "We expect that the group that receives counseling will be more likely to make a living will, but we don't know that at this point. If this turns out to be the case," he says, "shelters might be encouraged to offer advance planning counseling to their clients." Song says he is also interested in other changes the counseling might elicit. "We expect some psychosocial outcomes [among our subjects], like reconnecting with families and friends because of this."

In its final stage, the study will examine local hospital records to discover whether study participants have been admitted for end-of-life care and, if so, whether their living wills were accessed and had an impact on treatment.

Trying to improve end-of-life care for a population struggling to survive day-to-day may seem counterintuitive



at first, but the new study builds on research showing that issues surrounding death and dying are a major concern among the homeless. In a way, that should come as no surprise. Nationally, the average life expectancy of a homeless individual is 40 years. Many, if not most, homeless people have experienced the death of friends living on the streets and have many fears about how they themselves will be treated both at the end of their lives and after they have died.

A study by Song, Bartels, and Ratner published early in 2007 was the first to canvass these concerns in a systematic way. The study, “Dying on the Streets: homeless persons’ concerns and desires about end of life care,” asked homeless clients at a half dozen facilities in the Twin Cities to describe a good death and asked such questions as, “What kinds of services would you say would be needed so that homeless people might die in comfort and dignity?”

The answers elicited by these queries often surprised the researchers.

“Homeless persons’ level of sophistication and understanding of end-of-life concerns and the threats they face living in the streets was a revelation to me,” admits Bartels, whose background is in nursing and family social science. “Because death is so pervasive in their

everyday life, they know what they do and don’t want. A number have already appointed someone to serve as their advocate. You’d think that if they didn’t know where they were going to sleep tonight, they probably wouldn’t have a living will—but some do.”

Over and over again, the homeless individuals interviewed for the study emphasized two things: They wanted to die with dignity if possible—no machines keeping them alive—and they wanted their bodies tended to and their lives commemorated in some way after they are gone.

With this research in hand, Song’s team convened a conference and invited homeless individuals, service providers for the homeless, end-of-life care experts, and representatives from the Medical Examiner’s office to ask what they thought would be an effective intervention study. “They came up with the same recommendation we did,” says Song: “living wills.”

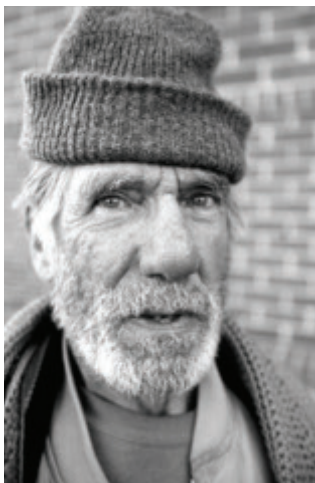
“Homeless people tend not only to be sicker than the rest of us but also to suffer the greatest disparities in health care, with poor access to treatment and even poorer outcomes,” Song observes. “Advance directives may be their one practical means of preserving their voice when they no longer are able to speak for themselves.”





PHOTOS: SCOTT STREBLE

PHOTOS: SCOTT STREBLE



The tools to quit smoking

Kolawole Okuyemi, M.D., M.P.H., associate professor in the Department of Family Medicine and Community Health on the University's Twin Cities campus, is also challenging assumptions about homeless populations.

"There's a general feeling that quitting smoking should not be a priority for homeless people and that, in fact, it's an okay way of dealing with the stress of homelessness," Okuyemi observes. "There's also a presumption that because of competing demands for food and shelter, the homeless are in no position to quit smoking."

Okuyemi, who came to the University in 2006 to create and direct the Medical School's Program in Health Disparities Research, is out to prove both assumptions wrong. Not only is smoking a top health concern for homeless people, but a pilot research program he conducted at the University of Kansas has already shown that homeless people want to quit smoking and can, if given the tools to do so.

Although trauma of one kind or another—accidents and homicides—ranks much higher as a cause of death among the homeless than among the general population, the reality is that, just like everyone else, homeless people are most likely to die of chronic illness—cancer, cardiovascular disease, diabetes, and AIDS. Smoking, of course, is a major contributor to at least two of those illnesses. Meanwhile, smoking among the homeless is much more common than among the general population. An estimated 70 percent of this country's 4 million homeless smoke cigarettes, as opposed to 25 percent of the population at large, and homeless smokers on average consume more cigarettes per day than other smokers.

"Smoking is perhaps the leading preventable cause of disease among the homeless," Okuyemi says. "And part of the tragedy of this tobacco use is that these are the people who can least afford it."

In the Kansas pilot program, Okuyemi's team conducted six focus groups with 62 homeless individuals to find out why they smoked, whether they

wanted to quit, and what kind of program they would like, and be willing, to participate in. His methodology was informed by one of his fundamental principles of working with underserved communities: to conduct research *with* these communities and not *on* them by enrolling participants in studies as collaborators rather than as passive subjects for study. Okuyemi used findings from the focus groups to design a pilot intervention with a six-month follow-up. Although the sample size was relatively small—50 participants—the results were highly encouraging.


“Contrary to expectations, the people who agreed to be part of the program showed up for their appointments, and about 70 percent of those enrolled finished the program—the same completion rate as that for the general population,” Okuyemi says. By study’s end, the success rate—the proportion who quit smoking—among homeless participants was identical to that of the general population.

“It was mind-boggling,” Okuyemi says.

Now he’s using those results to launch a major research study/intervention to see whether they hold true with more subjects over a longer time period. He’s confident that they will. So is the NIH, which recently awarded Okuyemi and his research team a four-year, \$2.8 million grant to find out.

The new study will be based in Twin Cities homeless shelters. Already several organizations that serve the homeless, including the Dorothy Day Center, Listening House, People Serving People, and Healthcare for the


Homeless, have signed on to the project. Okuyemi is planning to enroll some 400 homeless individuals in the study, which differs from the pilot project because, in addition to offering a traditional smoking-cessation program that includes the use of nicotine patches, it will provide participants with motivational interviewing counseling, which Okuyemi calls “a special kind of counseling that encourages individuals’ inner motivation to drive their decision-making.”


Of his new research, he says, “This is the first full-scale study of its type anywhere in the world. If, as we are hoping, about 20 to 25 percent of the participants quit smoking long-term, the policy implications are significant. It would serve as a model for shelters and agencies around the country to offer programs to their homeless clients who are interested in quitting smoking.” 

BY RICHARD BRODERICK

PHOTOS: STEPHEN GEFRE



 To view a presentation on the research of John Song, M.D., M.P.H., and colleagues, go to www.mmf.umn.edu/mb/song.

 To learn about one Medical School–Duluth Campus faculty member’s efforts to help homeless and underserved teens, go to www.mmf.umn.edu/mb/homeless.

Those who died homeless in Minnesota last year were remembered during a silent vigil and march December 20 in downtown Minneapolis.



Targeting teen health

The University's experts in adolescent health have made it their mission to help teens survive these risk-filled years

PHOTO: © VEER INCORPORATED



IF YOU ARE READING this page, you have lived it: The hormone-driven emotional highs and lows. The risk and resilience. The vulnerability and invincibility. The rite of passage that Carol Burnett called “one big walking pimple.”

It's adolescence, and it's no joke. In 2003, motor vehicle accidents, homicide, and suicide were the three leading causes of death among individuals aged 10 to 24—or 57 percent of all deaths in that age group, according to the National Adolescent Health Information Center. One in five 12th graders reported using cigarettes or taking drugs, and one in four said they were binge drinking. A new report from the Centers for Disease Control and Prevention indicates that the teen birthrate has increased for the first time since 1991.

Not surprisingly, experts in the University of Minnesota Medical School's Division of Adolescent Health and Medicine will tell you that the teen years



demand health-care professionals' undivided attention.

"Members of this age group are not dying primarily of tumors and infectious diseases. They are dying of drinking while driving, accidents, depression, drugs, and violence," says Nimi Singh, M.D., M.P.H., head of the adolescent medicine division and assistant professor of pediatrics. "If 80 percent of what kills people between ages 11 and 21 is emotional and behavioral, any clinician who is providing care for that population has to be looking for warning signs."

Singh and her colleagues have made it their mission to help teens survive these risk-filled years, and the team is training new physicians to think differently about the way they provide care for these uniquely challenging patients.

Says Singh: "We want clinicians to pick up on when a teenager is upset about a

negative interaction at school, for instance, so they can help that teen learn to cope with the event emotionally rather than have him or her show up in the ER six months later because the social fallout became too much to handle.

"Anxiety, depression, poor eating habits—identifying the risky behaviors early and helping adolescents make healthy choices is the only sensible way of addressing this country's growing challenges in adolescent health," she says.

In fact, the University of Minnesota has been a pacesetter in teaching doctors and other health professionals to do just that. In 1978, it became one of seven academic institutions in the nation to host a federally funded interdisciplinary adolescent health fellowship program, supported by the U.S. Maternal and Child Health Bureau to train future leaders in adolescent health. And in 1988, the University's



Nimi Singh, M.D., M.P.H., head of the Department of Pediatrics's adolescent medicine division, teaches the importance of screening adolescent patients for emotional and behavioral problems and providing them with healthy coping strategies.

I tell students and residents that listening to what young people say is more important than listening to their patients' hearts.

– Nimi Singh, M.D., M.P.H.

Department of Pediatrics began requiring all of its residents to complete an adolescent health rotation—long before the Accreditation Council for Graduate Medical

Education made that a mandate for all pediatric residents in 1996.

“The aim of the [adolescent health] rotation is to round out residents' education so they become sensitive to a population that's more independent about the health-care decisions they make,” says John Andrews, M.D., director of the pediatric residency program and associate head of education in the Department of Pediatrics.

“When you provide care to a 7-year-old, while you are holding the interests of that child in highest regard, you are also negotiating with a concerned caregiver, like a parent, to do what's best. With adolescent patients, you need to relate more directly with them and respect their priorities.”

A memorable month

University pediatrics resident Tonya Brakey, M.D., entered her adolescent health rotation with some apprehension. Like many of her fellow residents, she was intimidated by teens. “I had this presumption that they are secretive and have a lot going on behind

the scenes that they wouldn't want to tell a doctor,” recalls Brakey. “I was concerned that when I'd talk to them, I'd look like a square or be transformed into my mother.”

But Brakey, who completed her rotation in fall 2006, found the experience to be highly rewarding. “My approach to working with youths changed fundamentally based on the training I got,” she says. “The teens were refreshing. They were funny. They were a lot more candid than I thought they would be, and they were eager to have someone listen to them and answer their questions. It was really satisfying.”

The U's pediatric residency program packs a lot into its month-long adolescent health rotation, combining clinical assignments with training sessions, lectures, and innovative approaches to teaching communication skills.

Residents spend 20 to 25 hours a week in a variety of locations, including the Fairview Children's Clinic affiliated with the University of Minnesota Children's Hospital, Fairview; Hennepin County Medical Center's adolescent medicine specialty clinic; and Face to Face, a multiservice center for homeless youths.

“The residents tend to move around a lot during the 30 days,” says Mae Seely Sylvester, M.S., coordinator of the rotation. “We try to give them the experience of seeing adolescents in a variety of settings.”

Two mornings a week, residents learn about such critical topics as reproductive health, mental health issues, contraception, teen pregnancy counseling, sports medicine, and gay/lesbian/bisexual/transgender youth issues.

The first two Friday afternoons of the rotation are devoted to clinical communication. Singh spends the initial hour talking about how to conduct a useful psychosocial interview, using the acronym HEADDSSS (asking about the patient's Home life; Education; Activities; Diet; Drugs, alcohol, and tobacco; Sexuality; Suicidal thoughts or depression; and Safety).

"The single most critical tool when working with teens in a health-care setting is the psychosocial interview, which involves connecting with young people, asking them how they are doing," says Singh. "I tell students and residents that it's more important than listening to their patients' hearts."

Often, threats to an adolescent's health have little to do with teens' primary reasons for visiting their doctor. "Even if a 14-year-old comes in for a refill on his asthma medications, you've got to do the psychosocial screening because you have no idea which young person may be struggling. The physical exam alone is not going to reveal what is putting their health at risk," Singh says. "That's adolescent medicine in a nutshell: identifying stressors in the life of a young person, then making sure they have healthy coping strategies for dealing with them."

That message struck a chord with adolescent health fellow Stephanie Walters, M.D., who realized she wanted to specialize in adolescent health when Singh spoke in one of her second-year medical school classes.

LEAH: A LARGER SPHERE OF INFLUENCE

WHEN STEPHANIE WALTERS, M.D., finished her family medicine residency in 2006, she knew she wanted to make a difference in the lives of adolescents but wondered how she could have a bigger impact.

Today she is exploring her options as a second-year fellow in the Leadership Education in Adolescent Health (LEAH) program offered by the Medical School's Division of Adolescent Health and Medicine. An interdisciplinary fellowship funded by the U.S. Maternal and Child Health Bureau, LEAH provides clinical and leadership training in adolescent health. The program serves professionals seeking adolescent specialty training in medicine, psychology, nutrition, nursing, and social work.

"Most health issues need to be addressed through an interdisciplinary approach, but it's especially true for adolescent health," Walters says. "The majority of the issues adolescents face are psychosocial, not strictly medical, so the perspectives of others have been invaluable to my learning."

The LEAH fellowship, which lasts three years for medical fellows, is multifaceted and rigorous. In addition to spending time with patients in clinical encounters, fellows must earn a master's degree in public health, complete one research project a year and submit a journal article on the research, give adolescent-health lectures to residents and medical students, receive training in public speaking and media communications, and explore advocacy by learning about the legislative process and preparing testimony for a mock legislative hearing.

"The people we train are clinicians, but the purpose of LEAH is to help them have an impact at both the patient and the population levels," says LEAH director Michael Resnick, Ph.D., professor of pediatrics and public health and holder of the Gisela and E. Paul Konopka Chair in Adolescent Health and Development. "We place fellows in academic institutions, in the public health sector, or in other systems where they will have a much greater influence on programs, policy, and practice than they would in more traditional practice settings."

Walters hasn't decided exactly what she will do when she completes her LEAH fellowship, but she wants to stay connected with the University and continue teaching.

"When I started medical school, I had no idea that I would find a field that valued advocacy, teaching, clinical time, and research in equal measure," she says. "I am passionate about public policy and politics and sometimes have to pinch myself that I am getting paid to be a fellow and develop these skills."



Stephanie Walters, M.D., a second-year fellow in the LEAH program, is thrilled to have found a field that gives equal value to advocacy, teaching, clinical time, and research.



Third-year pediatric resident John Anderson, M.D. (left), discusses a patient's chart with John Andrews, M.D., director of the University's pediatric residency program. The program has included an adolescent health component since 1988.

"She spoke passionately about serving teens, what the typical teen visit is like and the kind of impact we can make as physicians. I chased her down to learn more," recalls Walters, who completed her family medicine residency in 2006. "I love the psychosocial part of medicine and the chance to sit down and hear about patients' lives. This is the bread and butter of adolescent medicine, which cannot be said for many other specialties."

One highlight of the rotation, the Adolescent Actors Teaching Project, allows residents to practice their interviewing skills through role playing. During the session, trained adolescent actors ages 14 to 20 come into the classroom "clinic" for predetermined reasons.

"Residents do the practice interview for 15 to 20 minutes. Then the actors provide feedback on how the interaction felt for them, what areas require improvement, what they liked and disliked, and what the residents could have done differently," explains Sylvester. "The feedback from residents has been very positive. What I hear most often is, 'I was anxious about role playing, but now I understand that talking to teens is doable and important.'"

The promise of youth

Amid the sobering statistics regarding adolescent health, Singh says there is much good news, too. First, clinical communication skills are easy to teach, easy to learn, and incredibly effective. Second, adolescents bounce back. "When practitioners can speak with adolescents in a respectful, nonjudgmental way, adolescents really will open up and tell you everything you need to know to provide effective care, and that puts us on a path toward the positive," she says.

Three years ago, when Walters was talking with a 15-year-old patient during a well-care visit at a North Minneapolis clinic, she asked the teen if he had any questions about safe sex. With great enthusiasm, he described his role as a peer educator at Minneapolis North High School.

"I felt energized all day long after that visit; he had given me such a charge with his positive energy and his healthy understanding of how to protect himself and his friends," recalls Walters. "The best part of my job has been identifying teens' innate sense of health and wellness and focusing on those assets to help them avoid future risks—or handle current struggles."

That's just the lesson Singh wants to share. "What we find through our research and practice is that there is a lot of resilience built into these patients," she says. "Tapping into that resilience—serving as a facilitator in bringing that out and then teaching others to do the same—is hands down the most rewarding, most hopeful part of my specialty." ^{MB}

BY JEANNE METTNER



To view part of a demonstration interview with Nimi Singh, M.D., M.P.H., and an adolescent actor, go to www.mmf.umn.edu/mb/teens.

Clohisy named head of orthopaedic surgery

AFTER AN EXTENSIVE nationwide search, the University of Minnesota Medical School named surgeon Denis Clohisy, M.D., head of its Department of Orthopaedic Surgery, effective November 1, 2007.

A member of the Medical School faculty since 1991, Clohisy is nationally recognized for his work with musculoskeletal tumors. His main areas of interest include the development of experimental models of breast cancer, the discovery of new bone cancer therapies, and the study of the mechanisms that lead to bone cancer pain.

“As a leader in medicine committed to excellence, Dr. Clohisy is the right choice for a renowned department in our Medical School,” says Deborah Powell, M.D., dean of the Medical School.

Clohisy has led many NIH-funded research projects on bone cancer pain and currently chairs the American Academy of Orthopaedic Surgeons’ research committee.

Clohisy earned his M.D. at Northwestern University and first came to the University of Minnesota Medical School as a resident. He completed a postdoctoral research fellowship at Washington University and a fellowship in musculoskeletal oncology at Harvard University before joining the University of Minnesota faculty. Since 1999 Clohisy has held the Roby C. Thompson Jr., M.D., Endowed Chair in Musculoskeletal Oncology. [MIB](#)



Denis Clohisy, M.D.

Study finds women with breast cancer are choosing unneeded surgery

Growing numbers of women in the United States are choosing to have both breasts removed when cancer is detected in one breast, but in many cases, a double mastectomy is unnecessary, according to researchers at the University of Minnesota Cancer Center.

A team led by Todd Tuttle, M.D., chief of surgical oncology in the Medical School’s Department of Surgery, found that the use of double mastectomies — or contralateral prophylactic mastectomy (CPM) surgery — when cancer has been diagnosed in only one breast more than doubled between 1998 and 2003. Of 152,755 women diagnosed with stage I, II, or III breast cancer in this six-year

period, 59,460 women had a single mastectomy and 4,969 women who could have had a single mastectomy instead chose to have a double mastectomy. The researchers also noted that the use of CPM surgery increased from 4.2 percent in 1998 to 11 percent in 2003.

Tuttle, a member of the University’s Cancer Center, says that while CPM surgery reduces the risk of cancer in the other breast, the surgery is also more aggressive and irreversible. “Most patients will not experience any survival benefit,” he adds, as the risk of cancer spreading to other parts of the body is greater than the risk of it spreading to the other breast.

Certain women, including those who have been diagnosed with cancer and have the BRCA1 or BRCA2 genetic mutation, have a greater risk of developing cancer in the second breast if cancer is diagnosed in the other.

The study, published online October 22, 2007, in the *Journal of Clinical Oncology*, is the first to determine the use of CPM surgery on a national level. [MIB](#)

U tests novel leukemia treatment

IN THE WORLD'S FIRST clinical trial of its kind, University of Minnesota researchers are testing an innovative way to reduce complications and improve survival rates in patients who undergo blood and marrow transplants.

The research team hopes to determine the optimal dose and safety of T regulatory cells (T-regs) to reduce the risk of immune reaction in transplant patients who have leukemia, lymphoma, multiple myeloma, or other blood and marrow disorders.

“We are exploring the possibility of using T-regs to enhance the rate of

blood and marrow recovery and reduce the risks of graft-versus-host disease [GVHD], a complication that affects more than 60 percent of patients,” says Claudio Brunstein, M.D., Ph.D., the study's principal investigator.

In GVHD, immune cells in transplanted blood or marrow attack cells they don't recognize, such as those in the patient's own body.

T-regs are a type of lymphocyte, or white blood cell, that normally regulates the body's immune responses. University researchers believe that donor T-regs may suppress the transplant

recipient's immune system, allowing the healthy donor's blood-forming stem cells and immune cells to grow — thereby helping to ward off GVHD.

The T-regs in this study are isolated from umbilical cord blood — blood collected from the placenta right after the birth of a child — because cord blood has more T-regs than typically found in adults' blood. MB

Grants nourish students' creativity

A new grant program is giving medical students a chance to exercise their right brains.

The Fisch Art of Medicine Student Awards, which allow students to nurture their creative sides by taking classes, working with mentors, or simply focusing on an artistic pursuit, are meant to enhance the lifelong connections between the art and science of medicine.

University pediatrics professor emeritus Robert O. Fisch, M.D., a Holocaust survivor who has shared his experiences through paintings and books, established and endowed the program.

Fourth-year medical students Brian Muthyala and Justin Finch received the first Fisch awards last year. Muthyala used his award to take courses in audio editing and radio documentary before producing an audio documentary on two Minnesota doctors, Eric Meininger, M.D., and Ken McMillen, M.D., who work with homeless people.

“There are few chances in medical school to create and to be creative,”

Muthyala says. “And to combine medicine with creative pursuits was a unique and very rewarding experience.”

Using his award, Finch attended a documentary photography workshop in Maine and then photographed teens living on the streets in Camden, a tourist town on the Maine coast.

“This was one of the most memorable experiences of my life,” says Finch. “In retrospect, the experience was really about listening and storytelling — something we do in medicine every day — and I think that is what made it so profound.”

Finch and Muthyala will discuss and present their work at the first annual Robert O. Fisch Art of Medicine Colloquium on March 11 at the Weisman Art Museum. MB

MB To see and hear the first Fisch awardees' projects, go to www.mmf.umn.edu/mb/fisch.

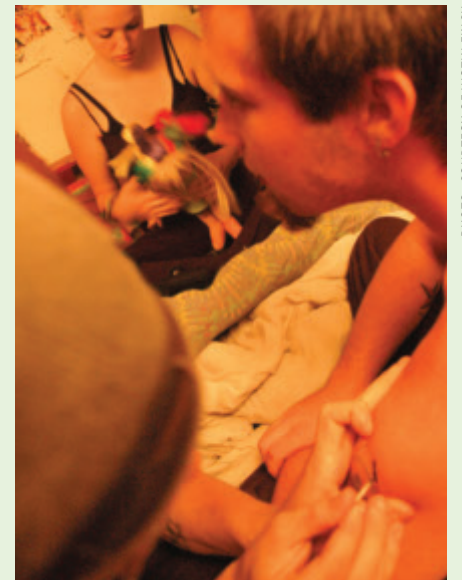


PHOTO: COURTESY OF JUSTIN FINCH

Using his Fisch award, medical student Justin Finch photographed teens living on the streets in Camden, Maine.

Project proposals for the 2008–2009 Fisch Art of Medicine Student Awards are now being accepted. Applications must be received by May 1. For more information, contact Jon Hallberg, M.D., creative director of the University's Center for Arts and Medicine, at 612-624-2477 or hallb006@umn.edu.

Endowed chair honors legendary U transplant surgeon

Colleagues, friends, and former patients honored transplant surgeon John S. Najarian, M.D., in November by establishing an endowed chair in his name. Najarian led the Department of Surgery at the University of Minnesota Medical School from 1970 to 1995 and established the program as a world leader in transplantation.

The John S. Najarian, M.D., Surgical Chair in Clinical Transplantation will enable the Department of Surgery to support the research and clinical pursuits of a full-time faculty member of international stature in transplantation.

An endowed chair is the highest honor to recognize prominent faculty for contributions to their field. To establish the Najarian chair, donors committed more than \$1.5 million through the Minnesota Medical Foundation, and the University provided \$500,000 in matching funds.

"I am honored to have my name attached to this chair and am most



PHOTO: JERRY VINCENT

pleased that the recipient of the chair will ensure continued first-class leadership for our world-class transplant program," says Najarian, who remains on the surgery department faculty as a clinical professor of transplant surgery. MB

translate biomedical research discoveries into important clinical applications," says al'Absi, who is nationally known for his research on the links between stress, addiction, and pain.

In September he and a national research team received a four-year, \$1.6 million National Institutes of Health grant for collaborative research that will quantify the physical connection between stress and addictive substances. MB

Medical School opens new Duluth campus research institute

The University of Minnesota Medical School – Duluth Campus has hired Mustafa al'Absi, Ph.D., as director of a new research institute that will foster collaboration among researchers from multiple biomedical and clinical disciplines at the University and at community health agencies.

"The overarching goal of the Duluth Medical Research Institute is to develop groundbreaking programs that can

U imaging pioneer joins Institute of Medicine

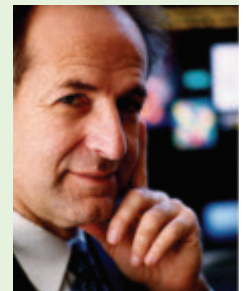
University professor Kamil Ugurbil, Ph.D., a pioneer in using ultrahigh magnetic fields to map areas of the brain, has been inducted into the prestigious Institute of Medicine.

Ugurbil, a professor in the departments of neurosciences, radiology, and medicine and director of the Center for Magnetic Resonance Research (CMRR) at the Medical School, was one of 65 new members inducted in October.

"It's a great pleasure to welcome these distinguished and influential individuals to the Institute of Medicine," says IOM president Harvey Fineberg. "Election is considered one of the highest honors in the fields of medicine and health."

Ugurbil's use of ultrahigh magnetic fields to conduct magnetic resonance imaging studies has allowed researchers to map brain activity noninvasively, leading to a better understanding of such disorders as Alzheimer's disease, schizophrenia, and other mental illnesses.

In 1982 Ugurbil joined the University, where he started in vivo magnetic resonance imaging and spectroscopy research, which ultimately led to the creation of the CMRR. He currently holds the McKnight Presidential Endowed Chair in Radiology at the University. MB



Kamil Ugurbil, Ph.D.

U honors pacemaker inventor with honorary M.D.

The University of Minnesota Medical School in December presented Earl Bakken, inventor of the first battery-powered, wearable pacemaker and cofounder of Medtronic, Inc., with its first-ever honorary M.D. degree.

Medical School Dean Deborah Powell, M.D., presented Bakken with the award during a daylong scientific symposium celebrating the 50th anniversary of the invention of the pacemaker.

“The University has a rich legacy in the cardiovascular sciences, including a leading role in the development of the wearable battery-powered pacemaker,” says Paul Iazzo, Ph.D., program organizer and professor of surgery at the University. “This symposium is designed to honor Earl Bakken’s contributions to the medical device industry and offer a glimpse into the future of biomedical devices.”

The event was sponsored by the Medical School and Academic Health Center with support from LifeScience Alley. [MIB](#)



Pacemaker inventor Earl Bakken receives an honorary medical degree from Medical School Dean Deborah Powell, M.D., as University President Robert Bruininks, Ph.D., looks on.

PHOTO: TIM RUMMELHOFF

Department of Pediatrics names new head

A NOTED PEDIATRIC NEPHROLOGIST and award-winning medical educator has been chosen to lead the Department of Pediatrics at the University of Minnesota. Aaron Friedman, M.D., will also serve as pediatrician-in-chief of the University of Minnesota Children’s Hospital, Fairview.

Friedman comes to the University from Brown University’s Warren Alpert Medical School in Rhode Island, where he was head of the Department of Pediatrics and medical director for the Hasbro Children’s Hospital.

He has received numerous awards for clinical care and has written more than 100 articles and 35 books and book chapters.

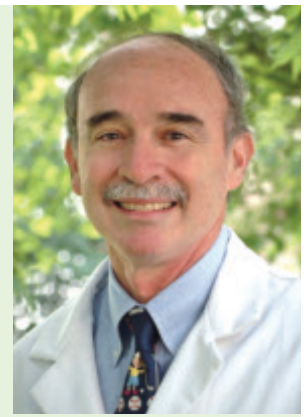
Friedman is no stranger to the Midwest. Before working at Brown University, he was head of the Department of Pediatrics at the University of Wisconsin – Madison,

where he was part of a team that successfully sought funding for a new children’s hospital.

“All of these traits make Dr. Friedman a wonderful addition to the University of Minnesota,” says Medical School Dean Deborah Powell, M.D. “He’s a proven leader.”

The University of Minnesota is in the process of building a new home for its own children’s hospital, which will be funded through bonding, philanthropy, and other sources.

Friedman will assume his new roles at the University in March. [MIB](#)



Aaron Friedman, M.D.

U to participate in landmark children’s study

The University of Minnesota has been named a lead study center in the National Children’s Study, which will assess the effects of environmental and genetic factors on health in the United States. Along with that designation will come \$14 million over five years to support the research.

The study, a collaboration of the U.S. Department of Health and Human Services and the U.S. Environmental Protection Agency, is the largest and most comprehensive study of child and human health in the nation’s history.

“What we learn will help not only children and families in Minnesota but also children across the country,” says Patricia McGovern, Ph.D., M.P.H., R.N., principal investigator for the University’s part of the study and a professor in the

School of Public Health. “Findings from the study will provide critically important information for children’s health researchers, health-care providers, public health practitioners, and policymakers working to improve health and quality of life for children nationwide.”

The National Children’s Study eventually will follow a representative sample of 100,000 children from before birth to age 21, seeking information to prevent and treat some of the country’s most pressing health problems, including asthma, autism, birth defects, diabetes, heart disease, and obesity.

For its part of the study, the University will follow 1,000 Ramsey County children from before birth through their 21st birthdays. [MIB](#)

U researchers find new way to combat pancreatic cancer

A discovery by University of Minnesota cancer researchers may help stop the growth and spread of pancreatic cancer in patients. The research team found that a natural compound called triptolide can kill pancreatic cancer cells.

The laboratory study, led by Ashok Saluja, Ph.D., vice chair for research in the Department of Surgery, was the first to examine the ability of triptolide, which has been used as a natural medicine in China for hundreds of years, to induce pancreatic cancer cell death.

“Several research reports indicated its effectiveness against melanoma, breast cancer, bladder cancer, and stomach cancer,” Saluja says, “but no one had investigated the connection with pancreatic cancer.”

Pancreatic cancer, which shows few early symptoms and is usually well advanced when found, is difficult to treat and almost impossible to cure. According to Saluja, pancreatic cancer cells are aggressive, tough, and highly resistant to currently available chemotherapy treatments.

His team found that mice treated with triptolide had lower rates of pancreatic cancer growth, disease spread, and HSP70, a protein known to prevent the breakdown of pancreatic cancer cells, as compared with mice that did not receive the compound.

The study appeared in the October issue of *Cancer Research*. [MIB](#)



Ashok Saluja, Ph.D.

Powell Center receives grant to support women’s health research

The Deborah E. Powell Center for Women’s Health has been awarded a \$2.2 million grant over the next five years to promote research that will benefit the health of women in Minnesota and across the nation.

The grant, from the National Institutes of Health Office of Research on Women’s Health, will fund the Building Interdisciplinary Research Careers in Women’s Health (BIRCWH) program. The University of Minnesota was one of ten universities selected to receive the BIRCWH grant, which supports the career development of promising young faculty who have recently completed clinical training or postdoctoral fellowships and want to devote their careers to women’s health research. [MIB](#)

Researchers receive AHC’s highest award for excellence

Four University of Minnesota researchers last fall received the Academic Health Center’s highest recognition of excellence—induction into the Academy of Excellence in Health Research.

Bruce Blazar, M.D., Karen Hsiao Ashe, M.D., Ph.D., Eric Newman, Ph.D., and Mary Story, Ph.D., R.D., were selected for sustained health-related research of sufficient renown to enhance the scholarly reputation of the University. They join 14 others who have been inducted into the academy since its inception in 2003.

A professor of pediatrics and an expert in bone marrow transplantation in the Medical School, Blazar has developed pharmacological and protein therapies designed to improve the outcome of bone marrow transplants by reducing serious side effects.

Ashe, a professor of neurology and neuroscience in the Medical School and a world-renowned Alzheimer’s disease researcher, has made breakthrough discoveries related to the molecular basis of memory loss and cognitive dysfunction associated with the disease.

A professor in the Medical School’s Department of Neuroscience, Newman has identified the role of glial cells in many key brain processes.

Story, a professor in the School of Public Health, has pioneered strategies for preventing obesity and promoting healthy eating and physical activity among youths. [MIB](#)

Alumni Spotlight | Bill Roberts

Going the distance in sports medicine

LAST FALL'S TWIN CITIES MARATHON was a record-setter: It was the hottest race in the event's 26-year history.

"The heat—74 degrees with 87 percent relative humidity at the race's 8 a.m. start—contributed to several other records as well," says William (Bill) O. Roberts, M.D., M.S., a Medical School alumnus (Class of '78) and the marathon's medical director.

About 900 people dropped out during the race this year—nine times the typical

number who don't make it to the finish line, Roberts says—shattering the previous record of about 300.

The heat was also a factor in an increased number of ambulance transports (80) and a record number of people needing medical assistance at the finish line (292).

"We worked a little harder this year," Roberts says.

But he doesn't mind that at all. "The runners are fun to take care of," he says. "They're so motivated. We see a lot of smiles."

Being involved in the Twin Cities Marathon is just one of Roberts's many extracurricular activities. By day, Roberts is a professor in the University's Department of Family Medicine and Community Health, and in July he became program director of the St. John's Hospital family medicine residency program. He's also a past president of the American College of Sports Medicine, founding member of the American Road Race Medical Society, chair of the sports medicine advisory committee for the Minnesota State High School League, and member of the USA Soccer Cup advisory committee.

A well-known expert on sports medicine nationally, Roberts enjoys writing and presenting on sports medicine topics at professional meetings. But what he says he loves most is his volunteer work caring for athletes in marathons and other road races.

"I think the saying goes, 'If you can't play, you coach.' For me, it was, 'If you can't play or coach, you take care of those who can.'"

'If you can't play...'

Roberts has been an avid athlete since high school. He played hockey ("until I got cut") and football ("until I was too small") and ran cross-country and track ("I was a sprinter—I liked to get it over with quickly").

Even while playing team sports, he often acted as a trainer, taping ankles, bandaging blisters, and bracing injured joints.

"I think the saying goes, 'If you can't play, you coach,'" Roberts says. "For me, it was, 'If you can't play or coach, you take care of those who can.'"

That sentiment continued throughout Roberts's medical training. He worked as a tournament physician for the Minnesota State High School League while a resident in the University of Minnesota Smiley's family medicine residency program. As he was finishing his residency, a friend who was organizing the medical team for the Twin Cities Marathon asked him to join.

"That seeded my interest in the care of runners," Roberts says.



An avid outdoorsman and sports enthusiast, Bill Roberts, M.D., M.S., is also a nationally known expert on sports medicine.


PHOTO: COURTESY OF BILL ROBERTS

Marathon-related research

Since then, Roberts has been a frontline observer of running-related injury and performance at the Twin Cities Marathon, Boston Marathon, Olympics in Atlanta and Barcelona, and other races around the world. Because of those experiences, Roberts has compiled a large collection of research studies on exertional heat stroke and the impact of temperature on running performance and injury.

He's also collaborating on other research projects with his residents at St. John's that look at the effects marathon running has on children and at the rates of sudden cardiac death in high school athletes.

In his spare time, Roberts enjoys a variety of athletic activities: Nordic skiing, downhill skiing, hockey, catamaran racing, hiking, and kayaking. He skis or inline-skates most days of the week and has even skated a few marathon-distance races.

Yet despite his involvement with marathon runners, he has never run a marathon himself. "Never," Roberts says. "They're for crazy people." 

BY NICOLE ENDRES



PHOTO: COURTESY OF KATIE PASTORIUS

Members of the Wilderness Health Society on a ski trip to Winter Park, Colorado

MEDICINE IN THE WILDERNESS

University of Minnesota medical students are leaving their books and laptops behind to hone their skills on ski slopes, white water, and vertical rock faces.

The students are combining their medical training with their love of the outdoors as members of the Wilderness Health Society (WHS), a 250-member club that is open to all health professional students at the University.

"It's fun and it's educational," says WHS president Katie Pastorius, a second-year medical student. "A lot of it is hands-on experience and practical skills."

On ski trips and rock climbing excursions, for instance, students have learned about surviving avalanches and splinting broken bones. The group also has gone kayaking, canoeing, mountain biking, hiking, snowshoeing, and winter

camping — learning how to handle the myriad medical risks that accompany outdoor adventure.

Medical School alumnus William Roberts, M.D., M.S., is the group's faculty adviser. Pastorius says it's obvious that Roberts is passionate about teaching and the outdoors.

"He's a great mentor," she says. "He is so enthusiastic, and he's very knowledgeable about wilderness topics."

Roberts says he's glad to be part of such an energetic group. "I wish I had thought of doing something like this in medical school," he says. "It's a fun application of your medical training."

To learn more about the Wilderness Health Society, visit www.student.med.umn.edu/wms.

Memories of medical school

NEARLY 200 ALUMNI reconnected with their classmates during Alumni Reunion Weekend on September 28–29, 2007. A total of 359 alumni and guests attended the weekend's festivities.

To learn about the latest medical technologies, alumni toured the University's new Simulation Center, where they were introduced to two high-fidelity patient simulators, SimMan and StanMan. They also visited the Center for Magnetic Resonance Research, where leading-edge imaging research is conducted. At the Alumni Celebration Banquet Friday evening, they honored six alumni for their outstanding contributions to the Medical School and the medical profession.

The following day, alumni heard presentations by some of the University's most innovative researchers on such topics as the treatment and possible cure for Alzheimer's disease and the use of new magnetic resonance technologies to understand the molecular basis of disease. The reunion wrapped up with private class dinners where participants shared news and reminisced with classmates.

"Renewing friendships and chatting with classmates after so many years was a joy," says Fred A. Lyon, M.D., Class of 1957, who was celebrating his 50-year reunion. "Reminiscing about the 'old' times brought us many smiles." MIB

Ardys Howard and Robert B. Howard, M.D., Class of 1944, catch up with friends at the Half Century Club Luncheon.



PHOTO: TIM RUMMELHOFF

SAVE THE DATE

Mark your calendars for Reunion Weekend 2008, which will be held September 26 and 27 on the University of Minnesota campus. This year the Medical School's classes of 1948, 1953, 1958, 1968, 1978, 1983, 1988, and 1998 will reunite with their classmates at the celebration.

Invitations will be sent to members of reunion classes as the date approaches. If you'd like to help plan your reunion, please call the alumni office at 612-625-0336 or 800-922-1663.

Travel awards to give medical students a chance to study in Israel

For 20 years the Phi Delta Epsilon Jewish Medical Fraternity Fund has provided scholarships to medical students at the University of Minnesota. Now three Medical School alumni and former members of the fraternity — James Gavisar, M.D. '68, Mace Goldfarb, M.D. '60, and Paul Schanfield, M.D. '72 — are hoping to boost support for the fund and make travel to Israel possible for students for part of their medical training.

Through travel awards supported by the fund, students will have a chance to study at the Baruch Padeh Medical Center, Poriya, near Tiberias, Israel. Gavisar, who has participated for years

in an exchange program with the teaching hospital, describes Poriya as "the Harvard of Israel."

He believes this international medical experience will provide opportunities for both personal and professional growth. "We want students to have these opportunities to broaden themselves as individuals," he says. "And we want to give them a different perspective of Israel than what they see in the news."

Some members of the University faculty and staff in gynecologic oncology already have taken part in an exchange program with Poriya, sharing knowledge about treatment techniques and sparking new ideas for additional collaborations.

In partnership with the Medical School's International Medical Education and Research office, the fraternity will bestow the fund's first award of \$2,000 this winter for travel in spring 2008. MIB

All medical students are eligible to receive scholarships from the Phi Delta Epsilon Jewish Medical Fraternity Fund. To make a donation or learn more, please contact Cindy Adams Ellis at the Minnesota Medical Foundation at 612-625-5976 or cae@mmf.umn.edu.

Act now to invest in the future of medicine


In the last 18 months, the University of Minnesota Medical School has hired nationally recognized leaders in surgery, orthopaedic surgery, otolaryngology, cardiology, stem cell research, pediatrics, pediatric neurology, and other specialties. These individuals join the team of talented physician educators, scientists, and clinicians who direct the Medical School's research institutes, departments, and divisions.

In hiring these outstanding scholars and practitioners, the school has used nearly every last square inch of space at its disposal. To continue to recruit and retain world-class faculty, however, the Medical School must have the resources to assure top recruits that they will have space to advance their research — and it's not just an issue of square footage. Top-flight researchers need space that is technologically sophisticated, collaborative, and integrative.

Again this legislative session, the University will seek support from our

state lawmakers for a bold investment in biomedical research space. Through the Minnesota Biomedical Research Program, the University commits to recruiting almost 200 new faculty members over the next 10 years while the state commits to investing in another 600,000 square feet of vital research space.

Without that support, Minnesota risks losing its top-tier position in the biomedical industry; outstanding medical researchers, who will accept positions at other institutions if the University can't provide state-of-the-art facilities; and the life-enhancing advances those scientists offer our communities and families.

How can you help? Let your legislators know that you support the proposed Minnesota Biomedical Research Program. To learn more — or to find your representative — go to the University's Legislative Network Web page at www.umn.edu/groots/. 


New directory to keep alumni connected

Want to find a long-lost medical school classmate? Wondering what your fellow alumni are up to? A new alumni directory can help.

For the first time in 14 years, the University of Minnesota Medical School is producing a printed directory, which will include names and class years for all M.D. alumni in the school's history. The directory also will list medical specialties and contact information for alumni who provide that information.

The Medical Alumni Society is partnering with Harris Connect, Inc., to produce the directory.

Harris representatives will begin contacting alumni by mail and e-mail in March. Alumni will be asked to verify or update their information by filling out a questionnaire either in print or online. Please take a few moments to confirm your information for inclusion in the directory.


Copies of the directory — in both bound, library-quality print and CD editions — are expected to be available for purchase by fall 2008. 

Call for award nominations: Celebrating outstanding achievements

Help us recognize exceptional accomplishments by those affiliated with the University of Minnesota Medical School.

The Medical Alumni Society is now accepting nominations for three major awards, which will be presented September 26 during the 2008 Alumni Reunion Weekend:

- The **Harold S. Diehl Award** honors individuals who have made outstanding professional contributions to the Medical School, University, and community throughout their careers. This is the Medical Alumni Society's most prestigious award.
- The **Distinguished Alumni Award**, formerly known as the Alumni Recognition Award, honors Medical School alumni who have made outstanding contributions to their local, regional, or national community through the practice of medicine, teaching, research, or other humanitarian activities.
- The **Early Distinguished Career Award** honors physicians for exceptional achievements within 15 years of graduation from medical school.

Nominations must be received by March 28, 2008. For more information about these awards and to see a list of past winners, visit www.mmf.umn.edu/alumni/awards. 

In Memoriam

ROBERT B. BAILEY, M.D., Class of 1940, Tempe, Arizona, died November 27, 2006, at age 90. A World War II veteran, Dr. Bailey practiced medicine in Fairmont, Minnesota, as well as in Yuma and Tucson, Arizona. He was preceded in death by his second wife, Beryl, and a son, and is survived by two children, one stepchild, five grandchildren, and six great-grandchildren.

RONALD N. BERRY, M.D., Class of 1959, Minneapolis, died August 14 at age 75. After completing his medical training, Dr. Berry practiced psychiatry. He is survived by his wife, Alice; four children; twenty-four grandchildren; and three great-grandchildren.

CHARLES M. BINGER, M.D., Class of 1955, Fresno, California, died April 3 at age 76. After serving in the air force and completing his medical training, Dr. Binger worked until his retirement in 1991 as a clinical professor of psychiatry at the Langley Porter Psychiatric Hospital at the University of California, San Francisco. He is survived by his wife, Barbara; three children; and four grandchildren.

ROBERT D. BUSH, M.D., Class of 1956, Manitowoc, Wisconsin, died January 6, 2007, at age 75. Dr. Bush practiced medicine in Manitowoc for more than 30 years. He was a pediatrician at the Manitowoc Clinic and was president of the Manitowoc County Medical Society, president of the Manitowoc City Board of Health, and chief of staff at Holy Family Hospital. He is survived by his wife, Lois; four children; and six grandchildren.

ARTHUR E. DAVIS JR., M.D., Class of 1952, Raleigh, North Carolina, died September 6 at age 81. A pathologist, Dr. Davis worked for hospitals in both Minnesota and North Carolina. He also served as a medical examiner for Wake County, North Carolina; president of the North Carolina Society of Pathologists; inspector for the American College of Pathologists; and volunteer physician for a summer camp in North Carolina and the football team of North Carolina State University. Dr. Davis is survived by his wife, Carol; six children; and thirteen grandchildren.

ELLIS B. FINCH, M.D., Class of 1949, Sedro Woolley, Washington, died August 7 at age 89. A World War II veteran, Dr. Finch worked as a physician and surgeon in Seattle, Washington, and Newberg, Oregon. He was preceded in death by his wife, June, and is survived by five children, three stepchildren, and four grandchildren.

DONALD W. FREEMAN, M.D., Class of 1941, Mesa, Arizona, died August 11 at age 90. In 1950, Dr. Freeman joined 10 other physicians—all graduates of the University of Minnesota—in founding the St. Louis Park Medical Center (now Park Nicollet Clinic). An accomplished obstetrician and gynecologist, he conducted maternal mortality studies for the state of Minnesota, served as chief of staff of obstetrics and gynecology for Minneapolis General Hospital (now Hennepin County Medical Center), and was a member of the University of Minnesota Medical School faculty. With Margaret Hewitt, an obstetrics nurse, he established Minnesota's first hospital-based midwifery program. Dr. Freeman was preceded in death by his wife, Helen, and is survived by six children.

H. WILSON GODFREY, M.D., Class of 1953, Eden Prairie, Minnesota, died September 30 at age 80. Dr. Godfrey was influential in building Fairview Southdale Hospital in Edina, Minnesota. He designed its original radiology department and later served as chief of staff and chief of radiology. Dr. Godfrey also helped found Suburban Radiologic Consultants (now Suburban Imaging), which currently employs more than 60 physicians. He is survived by his wife, Mary Ellen; three children; and seven grandchildren.

ROBERT A. HUSEBY, M.D., Class of 1943, Mancos, Colorado, died June 3 at age 88.

ALBERT J. KUNSCHNER, M.D., Class of 1930, Murrysville, Pennsylvania, died October 7 at age 101. Dr. Kunschner practiced medicine in New Jersey, Pennsylvania, and Illinois. He was a World War II veteran; a member of the Masons, Shriners, and American Legion; and an active supporter of the

Boy Scouts of America. He was preceded in death by his wife, Irene Colvin, and is survived by three grandchildren, two step-grandchildren, and five great-grandchildren.

CARL E. LIPSCHULTZ, M.D., Class of 1947, Coronado, California, died in September at age 82. Dr. Lipschultz, a World War II veteran, practiced dermatology in San Diego, California, and volunteered for several organizations as both a physician and adviser. Dr. Lipschultz is survived by his former wife, Ethel; three children; and four grandchildren.

JEANETTE K. LOWRY, M.D., Class of 1948, Hopkins, Minnesota, died May 17 at age 86. Dr. Lowry was one of the first women to complete an internal medicine residency at the University of Minnesota. Following her medical training, she conducted research with Dr. Ancel Keys—a University of Minnesota scientist known for his groundbreaking physiology studies (see page 31)—and practiced internal medicine in Minneapolis and Edina. Dr. Lowry was preceded in death by her husband, Paul, who was also a doctor and a graduate of the University of Minnesota. She is survived by three children and six grandchildren.

JAMES L. LYNCH JR., M.D., Class of 1943, San Marcos, California, died August 16 at age 89. Dr. Lynch practiced dermatology. He is survived by his wife, Mary; five children; fourteen grandchildren; and three great-grandchildren.

JEROME W. O'HEARN, M.D., Class of 1956, Fargo, North Dakota, died August 23 at age 77. After serving in the air force and completing his otolaryngology training, Dr. O'Hearn moved to Fargo, North Dakota, where he practiced at the Fargo Clinic for 31 years. At Fargo's St. Luke's Hospital, he served as chief of staff and as chair of its Department of Otolaryngology. He was also on the faculties of the University of Minnesota Medical School and North Dakota State University. Dr. O'Hearn is survived by his wife, Joy; six children; and sixteen grandchildren.

Alumni Connections

ELSA P. PAULSEN, M.D., Class of 1954, Charlottesville, Virginia, died April 15 at age 83. A pediatrician with expertise in juvenile diabetes, Dr. Paulsen served on the faculties of the University of Virginia and the Einstein College of Medicine in New York. She also ran a private practice in Charlottesville, conducted research on a new treatment for hypoglycemia that was eventually patented, and founded Camp Holiday Trails in Albemarle County, Virginia, for children with special medical needs. In 1976, she was named Woman of the Year by the Virginia Women's Forum. Dr. Paulsen is survived by two children and three grandchildren.

DOUGLASS E. PERKINS, M.D., Class of 1952, Miltona, Minnesota, died June 29 at age 79. A family practitioner, Dr. Perkins was preceded in death by his wife, Lois, and a son.

HENRY W. QUIST, M.D., Class of 1943, Minneapolis, died November 2 at age 89. Dr. Quist served in the army and practiced family medicine in Minneapolis until his retirement in 1992. He is survived by his wife, Jean, and two children.

ALFRED G. SHERMAN, M.D., Class of 1938, Edina, Minnesota, died September 10 at age 94. A veteran of World War II, Dr. Sherman completed his residency in ophthalmology at the University of Minnesota and went on to practice in Albert Lea, Minnesota, for 30 years. He was preceded in death by his wife, Lois, and is survived by five children, eleven grandchildren, and three great-grandchildren.

PHILIP H. SOUCHERAY, M.D., Class of 1940, Bayfield, Wisconsin, died March 15 at age 91. Dr. Soucheray practiced internal medicine and helped establish a hospital in Bayfield, Wisconsin. He was preceded in death by a son and is survived by his wife, Susan O'Brien; seven children; and eight grandchildren.

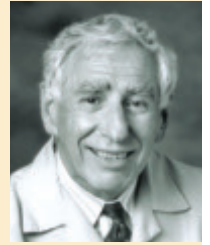
BERNARD L. MIRKIN, M.D., PH.D., Class of 1964, Evanston, Illinois, died August 13 at age 79. A pediatrician and pharmacologist, Dr. Mirkin was a member of the University of Minnesota faculty from 1966 to 1989, serving as professor and director of the Division of Clinical and Developmental Pharmacology.

Later he served as director of research for Children's Memorial Hospital at Northwestern University in Chicago, Illinois, and helped develop and construct its research center. He also provided health care and public health

education in the rural village of Nyansha, Tanzania.

Dr. Mirkin received international recognition for his contributions to medicine, including a fellowship from the Karolinska Institute in Sweden and a visiting professorship from Oxford University in Great Britain.

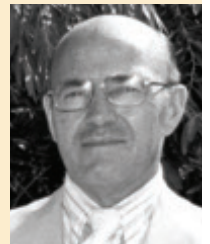
He is survived by his wife, Sarah; five children; and four grandchildren.



E. HARVEY O'PHELAN, M.D., Class of 1944, Minneapolis, died September 21 at age 91. An orthopaedic surgeon, Dr. O'Phelan was a physician for the University of Minnesota Gophers and for the Minnesota Twins for more than 20 years. He was also an orthopaedic specialist for the U.S. Olympic team during the 1972 Summer Games and for several years provided medical support to U.S. teams competing in the World University Games and the World Hockey Championships.

Dr. O'Phelan's sports medicine career led to his induction into the University of Minnesota Athletics Hall of Fame in 1999.

He was preceded in death by his wife, Kathleen; companion, Dorothy Dolphin; and a son. He is survived by four children and seven grandchildren.



JOHN (JACK) E. VERBY JR., M.D., Class of 1947, Bloomington, Minnesota, died October 23 at age 84. After helping to establish the Olmstead Medical Group in Rochester, Minnesota, Dr. Verby served on the faculty of the University of Minnesota Medical School from 1968 to 1993.

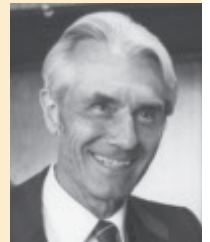
In 1971 he established the Medical School's Rural Physician Associate Program (RPAP), through which students gain clinical experience in rural primary care during nine-month stays in rural communities. The first program of its kind in the United States, RPAP initially helped address the shortage of primary care physicians in rural Minnesota. Now recognized nationally and internationally, RPAP has served as a model for schools worldwide for training in rural primary care.

A veteran of the Korean War, Dr. Verby helped bring an end to the doctor draft. His testimony in 1972 to the health advisory

committee of the president of the United States helped lead not only to discontinuation of the draft but also to the establishment of more competitive salaries for military doctors and to the creation of an armed forces medical school.

Dr. Verby was a charter fellow of the American Academy of Family Physicians. He wrote four editions of the Family Practice Specialty Board Review books and collaborated with his wife, Jane, on the book *How to Talk to Doctors*. He also received the Harold S. Diehl Award — the University of Minnesota Medical Alumni Society's most prestigious award for lifetime achievement.

Dr. Verby is survived by his wife, Jane; four children; nine grandchildren; and one great-grandchild.



Well done

An unusual hamburger experiment is part of the University of Minnesota's dietary research annals

What happens when you take a healthy young man and feed him nothing but hamburgers and water for three months? It sounds like the genesis of an edgy film—and in fact *Super Size Me*, a 2004 documentary, followed one man's 30-day immersion in McDonald's cuisine—but a real-life version of this experiment took place at the University of Minnesota in the early 1930s.

PHOTO: UNIVERSITY ARCHIVES



ABOVE Jesse McClendon, Ph.D., tested the healthfulness of hamburgers in the early 1930s by putting a U of M medical student on a Slyders™-only diet.

FACING PAGE This White Castle restaurant, once located at 616 Washington Avenue S.E. in Minneapolis, may have been the source of hamburgers in McClendon's experiment.

This tale of experimental hamburger gluttony had its genesis in the 1920s in the mind of Edgar Waldo "Billy" Ingram, owner of the White Castle fast-food chain. Then headquartered in Wichita, Kansas, White Castle was growing quickly, but widely held skepticism about the cleanliness and healthfulness of hamburgers concerned Ingram.

"The hamburger habit is just about as safe as walking in a garden while the arsenic spray is being applied," wrote the authors of a cautionary book of that era about nutrition, "and about as safe as getting your meat out of a garbage can standing in the hot sun. For beyond all doubt, the garbage can is where the chopped meat sold by most butchers belongs, as well as a large percentage of all the hamburger that goes into sandwiches."

Slyders™ only

Ingram resolved to convince a university researcher to put the healthfulness of hamburgers to a test. He found a taker in Jesse McClendon, Ph.D., a 49-year-old native of Alabama who had accepted a position in the University of Minnesota's Department of Physiological Chemistry after teaching at Cornell University and Randolph Macon College.

Considered one of the most important figures in American biochemistry, McClendon was a talented researcher who had made his name studying the composition of hemoglobin, the mechanics of human digestion, the connection between dietary fluoride and reductions in tooth decay, and the effects of iodine deficiency. Experimentation on humans did not frighten him: He once had swallowed a bulky electrical device to measure the acidity of his own duodenum.

The White Castle project allowed the biochemist to devise a study that would influence public thought (as well as hamburger sales) for years to come. McClendon knew that earlier studies had shown that adult dogs fed for a month on only lean meat appeared to fare well, and that humans on temporary all-meat diets lost calcium and phosphorus but didn't develop deficiency diseases. He planned to feed a single experimental subject only White Castle hamburgers—including the bun, onions, and pickles—and water for 13 weeks.

A willing subject presented himself: Bernard Flesche, a U of M medical student working his way through school. Flesche kept a diary during the ordeal. "He started out very enthusiastic about eating 10 burgers at a sitting," notes his daughter, Deirdre Flesche, "but a couple of weeks into it, he was losing his enthusiasm." His sister frequently tried to tempt him with fresh vegetables, but Flesche allowed nothing but White Castle Slyders™ to pass his lips.

A Look Back

One for the research annals

Thirteen weeks on a hamburger diet may sound arduous, but it's nothing compared with an experiment conducted by Ancel Keys, Ph.D., founder of the University's Laboratory of Physiological Hygiene. In 1944–45, he put 36 volunteers through a grueling diet designed to simulate the effects of famine and reduce the body weight of the subjects by 25 percent. From Keys's research came information that guided efforts to aid victims of starvation in the aftermath of World War II. His lab also developed survival rations for combat troops as well as objective methods of measuring body fat, work capacity, blood lipids, signs of heart disease, and blood pressure. Keys later performed groundbreaking research linking heart disease with diets high in fat and cholesterol.

More recent diet and nutrition research at the University has been equally significant. During the closing decades of the 20th century, medical and public health faculty produced strong evidence of the cancer-fighting properties of certain vegetables, the connection between low blood cholesterol levels and increased lifespan, and the benefits of whole grains in the diet in lowering heart disease risk.

Many U of M nutrition researchers are now focusing on a problem of heightened current interest: obesity. Simone French, Ph.D., Mary Story, Ph.D., and colleagues in the School of Public Health study the eating choices of children, adults, and entire families, and how awareness, availability, and



Bernard Flesche, a U of M medical student working his way through school, “started out very enthusiastic about eating 10 burgers at a sitting,” notes his daughter, “but a couple of weeks into it, he was losing his enthusiasm.”

economic forces direct those choices. The Early Risk Reduction Clinic in the Department of Pediatrics researches the causes and treatment of childhood obesity. One University study, published last year in the journal *Public Health Nutrition*, linked familial obesity with frequent fast-food meals and poor access to healthy food at home.

Too much of a good thing

But long before we became a fast-food nation, Bernard Flesche lasted through all 13 weeks of his White Castle hamburger binge. “The student maintained good health throughout the three-month period and was eating 20 to 24 hamburgers a day during the last few weeks,”

fast-food mogul Ingram stated, adding that the research proved that customers “could eat nothing but our sandwiches and water, and fully develop all [their] physical and mental faculties.” McClen-don’s study became a prominent part of White Castle’s advertising.

Flesche went on to practice medicine in Lake City, Minnesota. He died from heart problems at the age of 54. One immediate and chronic effect of his participation in the study: “He never willingly ate hamburgers again,” says his daughter. MIB

BY JACK EL-HAI

MMF board selects new officer, welcomes new members

The board of trustees of the Minnesota Medical Foundation (MMF) selected a new treasurer and welcomed five new members at its October annual meeting.

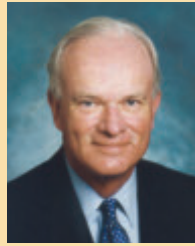
The board elected George E. Maas to a one-year term as treasurer. Maas joined the MMF board of trustees in 2002 and previously served as treasurer from 2004 to 2005. A certified public accountant and longtime supporter of medical research at the University of Minnesota, Maas succeeds Don J. Hodapp, who joined the MMF board in 2004.

The board of trustees also elected five new members to serve four-year terms:

Barbara L. Forster served previously on the board for 14 years and was board chair from 1996 to 1998. She also served as national cochair of the University of Minnesota's successful, seven-year, \$1.6 billion Campaign Minnesota. She received the University's top volunteer award—the Regents Award—in 2001 as well as MMF's top volunteer award, the Barbara L. Forster Award. She currently chairs the Cancer Center's community advisory board.

Stanley M. Goldberg, M.D., is a surgeon with Colon and Rectal Surgery Associates in Edina and a clinical professor of surgery at the University, where he received two bachelor's degrees and his M.D. In 1996, he received the Medical Alumni Society's Harold S. Diehl Award, and he was

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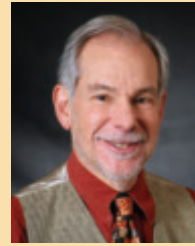
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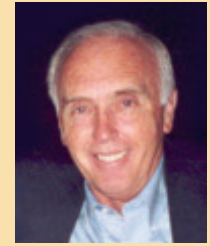
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named 2006 Surgical Alumnus of the Year.

From 1972 to 1992, Goldberg was chief of the University's Division of Colon and Rectal Surgery. In 2000, the Department of Surgery established the Stanley M. Goldberg, M.D., F.A.C.S., Chair in Colon and Rectal Surgery in his honor.

Peter M. Grant II is a partner with Stone Arch Capital LLC, a private equity firm in Minneapolis. He has more than 20 years of experience in private equity investing, investment banking, and capital market transactions. Grant chairs the board of Global Impact, a Washington, D.C.-based nonprofit dedicated to international relief work. He also serves on the board of governors of the Children's Theatre Company in Minneapolis.

Thomas G. Olson is president and co-owner of Prime Mortgage Corporation, headquartered in Minnetonka. He has

served on the Mortgage Bankers Association of Minnesota board for ten years, including one year as president. Olson is involved in fund-raising for the University's Diabetes Institute for Immunology and Transplantation, where he and his wife, Meredith Olson, have established the Carol Olson Memorial Diabetes Fund in memory of Tom's sister, who suffered from type I diabetes.

James P. Stephenson is a partner with the law firm of Faegre & Benson in Minneapolis. He was a member of the MMF board from 1997 to 2006 and served as board chair from 2002 to 2004. Under his board leadership, MMF completed a seven-year capital campaign that raised more than \$516 million. In 2004, he received the Barbara L. Forster Award.

For a complete roster, please see the following page.

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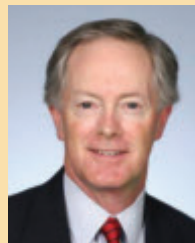
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