

## FACTS &amp; FIGURES

## Keeping ahead of cancer



An MRI of brain cancer (blue spot)

Year National Cancer Institute established

1937

Year National Cancer Act passed and "war on cancer" declared

1971

Year DHMC's Norris Cotton Cancer Center established

1972

Rank of cancer as a cause of death in the U.S.

2

Number of new cancer cases diagnosed annually in the U.S.

1.2 million

Percentage of patients who pass the five-year survival mark

60%

Number of patient visits annually at Norris Cotton Cancer Center

31,000

Estimated annual direct and indirect cost of cancer in the U.S.

\$180 billion

National Cancer Institute annual budget

\$4.2 billion

Norris Cotton Cancer Center annual research funding

\$43 million

Estimated number of cancer survivors in the U.S.

8.9 million

Sources: National Cancer Institute and Norris Cotton Cancer Center

## Striking back at death and disability caused by strokes

Stroke strikes someone every 45 seconds in the United States. It's the third leading cause of death, according to the American Heart Association, and the major cause of serious long-term disability. Two Dartmouth faculty members—stroke specialists who head up DHMC's multidisciplinary stroke program—hope to change those statistics.

**Expanding:** Neurologist Timothy Lukovits, M.D., and neurosurgeon Jonathan Friedman, M.D., joined the faculty in 2002 and 2003, respectively. They are expanding the stroke program previously run by neurologist Alex Reeves, M.D., who retired in 2002, and neurosurgeon Robert Harbaugh, M.D., who was recruited away from Dartmouth in 2003 to be the chair of neurosurgery at Penn State-Hershey Medical Center.

The newcomers' training coincided with some of the greatest advances in stroke care. Lukovits, a 1988 graduate of Dartmouth College, was nearing the end of his residency at DHMC in the 1990s just as the clot-busting drug tissue plasminogen activator (tPA) began revolutionizing the way strokes were treated. Until then, the field of stroke neurology had focused on exploring neuroanatomy and locating lesions in the brain.

"Now we had to behave more like emergency medicine physicians—quickly evaluate the patients—because you had three

hours between the onset of the symptoms and the administration of the medication," Lukovits explains.

And Friedman, who recently completed a residency at the Mayo Clinic, has witnessed how surgical treatments for aneurysms, one of the main causes of hemorrhagic stroke, have improved over the past 10 years. One of the recent advances, which Friedman refers to as the "coiling of aneurysms," involves inserting a plastic catheter into a major artery in the groin and guiding it through the vascular system to the brain, where it releases tiny platinum coils into the aneurysm. The coils keep blood from entering the aneurysm. But, he points out, in the majority of cases, surgeons still perform the "gold-standard procedure" of surgically putting a clip on the aneurysm.

**Smarter:** Surgery isn't the only option, of course. In fact, Friedman says, "we've gotten a lot smarter . . . about picking who to operate on and who not to operate on, so that we can provide benefit to a greater number of people and spare other people the risk of surgery."

That philosophy of providing the most appropriate care to stroke patients is the underlying theme of DHMC's multidisciplinary stroke program, which is made up of specialists from neurology, neurosurgery, neuroradiology, neuroanesthesiology, stereotactic radiology, and critical-care medicine. Together, they try to reach a consensus on what sorts of medical or surgical treatments make sense for the indi-

vidual patient, no matter what condition each one has—ischemic stroke, intracranial hemorrhage, carotid artery disease, intracranial aneurysm, vascular malformation, or the ministroke known as a transient ischemic attack (TIA). Lukovits and Friedman agree that Dartmouth's collaborative environment fosters a more unified and less fragmented approach to patient care than some larger institutions are able to offer.

In fact, they believe DHMC's stroke program is well positioned to seek recognition as a nationally certified stroke center—as soon as such certification is available. The Joint Commission of Accreditation of Healthcare Organizations is in the process of establishing criteria for designating levels of stroke centers in much the same way trauma centers are now designated. “Within the next couple of years,” says Lukovits, “we’re going to see certain hospitals get some kind of certification [as a] comprehen-

sive stroke center [or a] primary stroke center.”

As well as running the stroke program, the directors both do research. Lukovits is collaborating with cardiology on a multicenter clinical trial of a device to prevent recurrent TIAs and embolic strokes in patients with a particular heart defect. And Friedman does basic research on axonal regeneration after spinal-cord injuries or strokes.

**Focus:** But, cautions Lukovits, although “these things are very glamorous and kind of exciting,” delivering top-notch care is their primary focus—“good nursing care, multidisciplinary assessment, and appropriate use of rehabilitation,” he explains, “all the things that a stroke unit does and [that have] been shown to improve outcomes.”

“Although we’ve made a lot of progress, there’s an awful long way to go as far as improving outcomes of patients,” says Friedman of the state of the field.

LAURA STEPHENSON CARTER

## Randolph Noelle: Immunology insight has promising applications

A good scientist always has an eye out for counterintuitive observations. Such observations usually mean that something previously thought to be true is, in fact, incorrect. The resulting reinterpretation of the facts often leads to important scientific advances. Dartmouth immunologist Randolph Noelle, Ph.D., is a case in point.

The tale begins with a counterintuitive observation made many years ago, in the infancy of organ transplantation, when kidney transplants were almost always eventually rejected by the host. Anything that improved the success rate, even modestly, was hailed as a breakthrough.

One such discovery cut across the grain of scientific thought of the day. Noelle explains it: “If you took whole blood from the donor prior to [a kidney transplant] and transfused it into the host, it facilitated the longevity of the transplant. That observation is counterintuitive, because one would think that if you immunized the host with blood prior to the transplant, you would facilitate graft rejection. However, the procedure came to be known as donor-specific transfusion (DST), and it was widely used at the time.”

Then the powerful immunosuppressive drug cyclosporin was discovered, and the field of organ transplantation was revolutionized. DST was abandoned, and it became one of those oddities of

science that was never adequately explained.

Since then, knowledge of immunology has grown exponentially. It is now known, for example, that tens or even hundreds of millions of a body's cells turn over every day. The body has to have a way of recognizing the new cells as part of “self” so the immune system is not activated to attack them.

At the same time, an equal number of cells begin the process of programmed cell death known as apoptosis. During apoptosis, the immunologic makeup of cells is altered, yet the immune system still recognizes them as “self.” This phenomenon is called peripheral tolerance, and these cells are presented to the immune system in a nonimmunogenic, or “negative,” way. The process of reminding the immune system not to attack our own cells goes on constantly.

**Host:** So scientists now realize that an infusion of donor blood cells as in DST is a “negative vaccine”; the host immune system does not recognize them as foreign, so the immune response is suppressed. With the response to the donor blood suppressed, when the kidney is transplanted the immune response to it, too, is blunted. The graft lives a little longer—not much, but enough to be noticeable.

Then came the discovery of a molecule that is critical to the activation of the immune system—a helper T-cell molecule called CD154. The recent contribution made by Noelle and his graduate student Sergio Quezada was finding a way to greatly improve pe-

FLYING SQUIRREL GRAPHICS



Jonathan Friedman, left, and Tim Lukovits are the new heads of DHMC's stroke unit.



JOSEPH M. HERSH

**Randy Noelle recently made a key discovery about the immune system.**

ripheral tolerance—using an antibody to CD154 (namely anti-CD154), which can block the function of CD154 and all but ablate immunity in the host. Even better, this immunosuppressive antibody, when given with DST, can induce a profound and long-lived unresponsiveness to just the transplantation antigens.

In other words, by itself anti-CD154 produces global immune suppression, but with DST it produces tolerance only for the transplanted organ. Further, although anti-CD154 blocks many immune responses, it spares some that are critical for protecting the body against viruses and bacteria. Moreover, this effect appears not to permanently impair the host immune system.

**Skin:** Noelle describes how the team demonstrated this: “We can take a white mouse and a black mouse. We can give the white mouse some black-mouse blood, together with anti-CD154, and then permanently graft a piece of black-mouse skin onto the white mouse.” Skin was chosen, he says, because it is the

most difficult tissue to graft due to its extreme immunogenicity. Since then, the experimental process has been extended to other species and, adds Noelle, “we are very close to clinical trials in humans.”

This procedure would change the whole strategy of organ transplantation. First, the recipient would be treated with donor whole blood and anti-CD154. After as little as 24 hours, surgeons could transplant the organ without the need for immunosuppressant drug therapy.

Ironically, DST was supplanted by cyclosporin, but now DST plus anti-CD154 will likely supplant cyclosporin. In fact, the two forms of therapy are incompatible—because while cyclosporin staves off acute rejection, it blocks long-term peripheral tolerance. A new drug, rapamycin, does not have that undesirable effect. So when clinical trials are conducted, one group of patients will probably be given DST, anti-CD154, and rapamycin. Together, these treatments may result in immunologists’ longtime dream: permanent graft survival without generalized immunosuppression.

And there is still more good news: anti-CD154 may also prove useful against a host of autoimmune diseases. It is already being used in a clinical trial at DHMC against multiple sclerosis. Other diseases targeted for future trials include lupus erythematosus and idiopathic thrombocytopenia. Don’t tell patients with those diseases it’s not worth puzzling out scientific oddities.

ROGER P. SMITH, PH.D.

## New students bring many talents to Dartmouth Med School

A BBC commentator, an Indian classical dancer, and a Swedish hockey pro: that’s not the lineup of guests for a TV talk show but three of the 78 new members of the Dartmouth M.D. Class of 2007.

Drawn from 5,010 applicants, the 78 new medical students represent 23 states and 58 undergraduate institutions. The class is 55% women and 45% men. More than a quarter of the ’07s are of color or international students, and eight percent are from racial or ethnic groups underrepresented in American medicine.

They’ve had a range of experiences in medicine and science. The class includes a Ph.D. in biochemistry, nine EMTs, a UNICEF intern who worked in the Philippines, and a volunteer with Mother Teresa’s Missions in Calcutta. And they have pub-

lished papers in 11 different scientific journals.

Members of the class have also engaged in a range of other pursuits. One played on a Little League World Series championship team, another was president of a 55-voice chorus, and another founded a theater company.

Two of the ’07s are enrolled in the M.D.-Ph.D. program—one in pharmacology and toxicology and one in molecular and cellular biology—joining 25 students already in the program.

Also, 33 new candidates enrolled this fall in doctoral programs in the biomedical sciences: 25 in molecular and cellular biology, four in pharmacology, and four in physiology.

**CECS:** And the Center for the Evaluative Clinical Sciences (CECS) welcomed 17 new M.S. students, 34 new M.P.H. students, and five new Ph.D. candidates. They joined 42 continuing CECS students and two post-doctoral fellows.

MATTHEW C. WIENCKE



ELIYAH SQUIRREL GRAPHICS

**These four new M.D. students were all smiles at this year’s white coat ceremony.**

## NLM exhibit spotlights women in medicine—and DMS's Lori Alvord

**W**omen in medicine isn't a new topic: female physicians and researchers have been contributing to the betterment of human health for over 150 years. What is new is a major exhibition at the National Library of Medicine (NLM) honoring the lives and achievements of women physicians past and present from all across the U.S.—including, very prominently, DMS surgeon Lori Alvord, M.D.

The exhibition, titled “Changing the Face of Medicine,” is a multimedia showcase of artifacts, interactive displays, textiles, and photographs. More than 300 women physicians, living and dead, are included in some way in the exhibit; all of them are profiled in a computerized display at the NLM and on a companion Web site. From that number, 30 or 40 were selected for individual displays in the NLM's galleries. And about a dozen of those displays go beyond a two-dimensional presentation and feature artifacts—items representative of that physician's background and approach to medicine. Alvord, the first Navajo woman surgeon in the country, was one of the small number of physicians chosen

for this latter treatment. And a dramatic photo of Alvord in a surgical mask was singled out as an icon for the whole show—it's featured on the exhibition poster, reproduced below.

Among the items in Alvord's display are a hand-woven Navajo blanket; a Navajo sand-painting; and a corn-pollen pouch that goes back at least four generations in her family (and maybe more—Alvord doesn't know for sure how old it is). The items are pertinent to the way Alvord practices medicine, explains her exhibition bio, because the “Stanford-trained surgeon . . . tries to heal, not just fix, her patients by working with families, other practitioners, and constant cultural awareness.”

Alvord, who is also associate dean for student and multicultural affairs at DMS, speaks all around the country about cultural awareness in medicine. “It's important to develop relationships with patients and honor their background, history, culture, and beliefs,” she says.

It was Alvord's 1999 autobiography, *The Scalpel and the Silver Bear* (which was excerpted in the Spring 1999 DARTMOUTH MEDICINE), that caught the attention of the committee that selected the exhibition's participants. “Dr. Alvord's work demonstrates how women physicians have incorporated their heritage, personal values, or life experiences to bring something new and needed to the profession,” says Manon Parry, associate curator for the NLM.

It was almost two years ago that Alvord received a letter from the NLM notifying her of her selection, but she is still pleased by the honor—though humbled at being in the company of the other women in the exhibition, including two former U.S. surgeons general and the former heads of the National Institutes of Health and the Centers for Disease Control. Among the 300-plus participants are also four DMS alumni and two former members of the DMS faculty.

The exhibition can be viewed online at [www.nlm.nih.gov/changingthefaceofmedicine](http://www.nlm.nih.gov/changingthefaceofmedicine). Add “/exhibition/changing\_caring.html” to view Alvord's biography and a few of her artifacts. The exhibition opened at the NLM in October 2003, and after it closes there in April 2005 it will tour the United States. L.J.W.

## Aspirin by-product shown to knock back staph infections

A nasty microbe may have met its match. *Staphylococcus aureus*—a bacterium that is a leading cause of pneumonia, septicemia, and endocarditis (a heart valve infection)—has been shown to be less virulent after exposure to a by-product of aspirin.

A study led by principal investigator Ambrose Cheung, M.D., a professor of microbiology and immunology at DMS, has shown that salicylic acid (SAL)—which is produced when the body breaks down aspirin—reduces the ability of *Staph aureus* to adhere to host tissue and produce toxins, thus reducing the threat of deadly infections.

**Rats:** In an earlier study, a colleague of Cheung's at UCLA discovered that if rats with endocarditis are given aspirin, the infective vegetation—composed of bacteria, fibrin, and platelets—around their heart valves decreases. “But nobody thought of that as a direct effect of the aspirin,” says Cheung.

Through a process of incubation, Cheung's team was able to prove that SAL has a direct effect on *Staph aureus*. Instead of injecting the bacteria directly into the animal model, a rabbit, and then giving the animal an aspirin, they pre-incubated the bacteria itself with SAL. Next, they washed off the SAL and injected the bacteria into the animal, “and, boom,” says Cheung, “we found out that pre-incubation of the bacteria has the same



Alvord was chosen as the “face” of women physicians.



effect as systematic administration of salicylic acid or aspirin. That tells you that the effect [of salicylic acid] is directly on the bacteria," he explains.

The researchers went on to discover how SAL operates on a molecular level. It first decreases the ability of the bacteria to synthesize a protein that allows the bacteria to stick to soft tissue; without this protein, the bacteria are less likely to stick.

If the bacteria stick anyway,

detaching and spreading as nutrients are depleted, they synthesize toxins that lace the host tissue as they spread. But if that happens, SAL down-regulates the bacteria's ability to make these toxins. It does this by activating the *Staph aureus* stress-response gene, sigmaB, which in turn blocks the bacteria's DNA-binding protein, sarA. This causes a decrease in both cell-wall adhesion and toxin output.

Salicylic acid does not cure infections, Cheung notes, but it does decrease the ability of *Staph aureus* to cause infection. One infection *Staph* is responsible for is sepsis, a blood-poisoning dis-

ease that affects 750,000 people in the U.S. annually and is the leading cause of death in non-coronary intensive care units. Cases of sepsis are growing in number each year and becoming more and more resistant to antibiotic therapy. That means treatment options for combating such infections are likewise becoming more limited. So a combination of antibiotic and aspirin therapy could be an invaluable treatment.

**Studies:** More studies are still needed on using the combination of antibiotics and aspirin to fight infections. "I don't want to give the impression that we

should rush into aspirin for everything before [doing] the appropriate animal studies [and] subsequent clinical trials," emphasizes Cheung. "The reason is that aspirin is not a benign product. It has side effects with bleeding and so on." The key, he suspects, may be to use SAL rather than aspirin itself, "because it would have less of a problem with toxicity and is less likely to cause bleeding."

Cheung also plans to investigate whether SAL is effective against other bacteria that, like *Staph aureus*, have the same stress-response gene.

MATTHEW C. WIENCKE

## There's no time clock to punch on this duty

David Beidler spends his weekdays repairing massive sterilizers and acid-neutralization systems at DHMC, where he works as a plumber. Come Saturday evening, one might expect to find him relaxing at the movie theater or the bowling alley. Instead, he heads right back to DHMC, where he's also a regular volunteer.

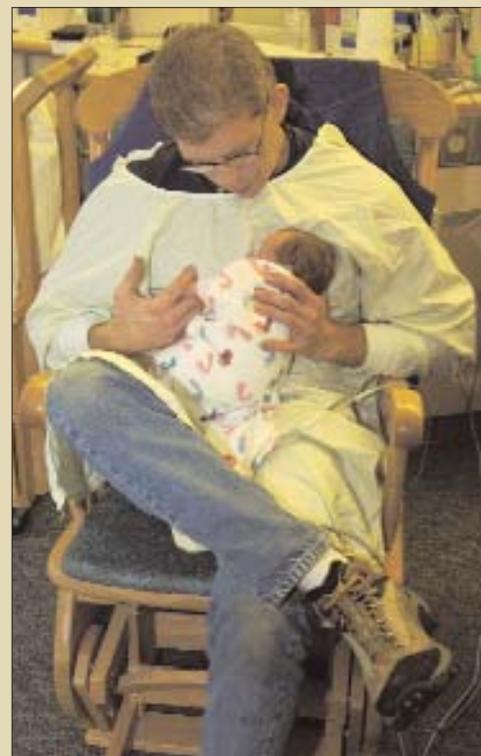
"I feel like it's important to be of service," says Beidler, explaining why he spends his off-hours, on his own time, at his workplace. He's been volunteering every week for the past two years as a "cuddler" in the Intensive Care Nursery (ICN). The staff there say that they appreciate his commitment and his gentle, patient manner with the tiny infants in the unit.

Studies have shown that when babies born prematurely—after less than 37 weeks in the womb—are cuddled, it helps them to gain weight and grow faster. They also spend less of their en-

ergy crying and more of it on growth. Beidler, who has three children and grew up in a big family with many nieces and nephews, has always "enjoyed holding infants," he notes.

"I hope it helps them in some way," he says of his tiny charges in the ICN. "I also want to be of service to the parents and the nurses," he adds, explaining that the nurses get to "relax a little bit in the short time that I'm there." Beidler says that he hopes someday to also volunteer at House of Hope, a children's hospital in Haiti, through a program at his church.

Beidler is but one of 450 active volunteers at DHMC. The ranks of volunteers include other Medical Center employees, as well as numerous community members. Though there are currently no openings in the ICN for additional cuddlers, there are 75 other departments at DHMC that incorporate volunteers into their daily activities. M.C.W.



JON GILBERT FOX

Dave Beidler, a plumber in the DHMC maintenance department, is also a regular volunteer at DHMC.

## DMS students' eyes are opened by Kosovar exchange

It took a trip to war-ravaged Kosova to help medical student Matthew Weitzel realize he'd learned more than he thought he had at Dartmouth. One of four DMS fourth-years who traveled to the Balkans in October, Weitzel made the discovery when he showed up for rounds one day in the infectious disease clinic at Kosova's University of Prishtina Hospital, but the attending physician didn't. Weitzel and several Kosovar residents—trained in a medical education system that includes little patient contact until residency—would have to handle rounds all by themselves that day.

**Clear:** Suddenly, it was clear to Weitzel that he'd learned more clinical medicine than he had thought. Even though he hadn't felt like he'd achieved much mastery of medicine during his third-year rotations, he recalls that he was able to formulate diagnoses and evaluate treatment plans with the residents. "What I realized," he explains, "was that my attendings and residents during my third year at Dartmouth had given me a medical curiosity and a way of thinking about medical problems in an expository way."

Weitzel's trip was part of the DMS-Kosova Project, a two-way exchange program that is now entering its fifth year. He was joined on this visit by fellow medical students Jennifer Boyle, Kirsten Redborg, and Chunbai

## CLINICAL OBSERVATION

In this section, we highlight the human side of clinical academic medicine, putting a few questions to a physician at DMS-DHMC.

**Andrew Torkelson, M.D.**  
**Assistant Professor of Medicine (Cardiology)**

*Torkelson joined the Dartmouth faculty in 1985, after completing his residency and a fellowship at DHMC. He practices general cardiology and has a special interest in cardiac rehabilitation, cardiac stress-testing, and cardiac catheterization.*

### Who was your medical mentor?

One of my mentors was George Engle, one of the first psychiatrist-internist physicians and a master at the interviewing technique. He was at the University of Rochester and did his undergraduate work here at Dartmouth. He taught me the psychosocial model of medicine and has been influential in my understanding of patients and patient care.

### What famous doctor, living or dead, would you most like to spend a day shadowing?

It would probably be George Hoyt Whipple. Dr. Whipple was the founding dean of Rochester Medical School, which I attended. Biographies written about him describe him as a man at the cutting edge of both the scientific field of medicine and the techniques of teaching medical students and as a Renaissance man who enjoyed fly-fishing, reading, and outdoor activities.

### Of what professional accomplishment are you most proud and why?

The professional accomplishment that I am most proud of is something that occurs every day for me—specifically, when I connect with patients and help them make decisions that, based on my best understanding, will improve the quality and hopefully the quantity of their lives.

### If you weren't a physician, what would you like to be?

I'm not sure what I would be. My brother was a professional football player, and I always wanted to be like him. His career in professional football with the Green Bay Packers spanned eight years, and he is now successful in business. Probably my vicarious enjoyment of his career has

substituted for what I might like to have been.

### If you could travel anywhere, where would you choose to go and why?

If I could choose anywhere at this point to travel, it would be to St. Petersburg, Russia. The art and history there are fascinating to me.

### What was the last book you read and what book do you keep meaning to read?

I read one book per week. My most recent was *Reading Lolita in Tehran* by Azar Nafisi. This is about the oppression of women in Iran and how they used literature to escape from this oppression. I am currently reading *Empire Express*, which is a history of the transcontinental railroad. A book I keep meaning to read is *Ulysses*, but I can never get through the first 20 pages.

### What was the last movie you saw?

*Seabiscuit*. The book was better than the movie.

### What advice would you offer to someone who is contemplating going into your field?

I would never discourage anyone from going into medicine but would simply remind them that the most difficult aspect of it is the duration of time required to reach your ultimate goal. But it can be done, as long as an individual is able to find the time to pursue other life activities—such as love of other individuals, literature, or athletics.

I view achieving this balance between personal and professional life goals as my greatest success, having been married for 27 years and having two children—a daughter at Williams and a daughter at Middlebury.

It's hard for an individual to know where their life will end up going. If they feel they can pull off this balance in their life, no matter what their profession, they should go for it!



Zhang, plus two faculty members—otolaryngologist Dudley Weider, M.D., and family physician Peter Mason, M.D. The DMS visitors to Kosova gain an understanding of a different health-care system and of the health issues facing a population still recovering from ethnic conflict. The Kosovar visitors to DMS learn ways of doing things that can help them rebuild their war-ravaged medical system.

**City:** The exchange is continually evolving. Susan Linsey, coordinator of the project since its inception, mentions a couple of “leaps the program has made in the past year.” For example, DMS students have previously stayed in Prishtina, Kosova’s capital city, and worked only within the University of Prishtina system. But the four there in October traveled widely and had a chance to work with nongovernmental organizations such as Doctors of the World (DOW). On field trips with these organizations, the students met Kosovars outside the university environment and observed relations between Serbians and Albanians. Boyle, who says her work with DOW “had life-changing perspectives crammed into one week,” was especially struck by visits to refugee camps and tuberculosis hospitals.

The DMS students also spent a week observing at primary-care settings outside Prishtina. And they spent the final two weeks of the visit in hospitals, working in specialties such as infectious disease, obstetrics, and emergency medicine.

During their spare time, the

students took on individual projects. Weitzel developed a smoking survey and administered it to over 400 medical students and doctors in the hope of ultimately establishing a smoking cessation initiative in Kosova similar to the Live Free-Smoke Free program at Dartmouth.

Boyle laid the groundwork with University of Prishtina students for implementing a community service program similar to DMS’s. Redborg worked on a cervical cancer screening project that had been started by Dartmouth ob-gyn Leslie Demars, M.D. And Zhang prepared a presentation on the structure of the American medical education system and also participated in a countrywide measles vaccination project.

**Ease:** Through their clinical work and their interactions with Kosovar students on these projects, the DMS students gained a new appreciation for the academic resources available in the United States as well as for the

general ease of life here. They were moved by the fact that many of the Kosovar medical students they met are not only members of the Kosova Liberation Army but said they’d leave medical school to resume fighting if asked to do so.

With these observations in mind, the DMS students returned to the United States with the hope that more Dartmouth students will follow in their footsteps. Linsey says the longitudinal aspect of the program is one of its strengths—the fact that relationships forged during it are often sustained. The returning students simply point to the warmth of the Kosovar people as a reason to make the trip.

“There’s a lot of distrust of Americans throughout the world these days,” says Weitzel. “But people in Kosova openly embrace you and welcome you into their community. It is unusual to be welcomed in that way. It is a remarkable experience.”

KATRINA MITCHELL



Three DMS students—from the right, Chunbai Zhang, Kirsten Redborg, and Matthew Weitzel—were guests in this Kosovar home during a month they spent in Kosova.

## Research income increases modestly in fiscal year 2003

Dartmouth Medical School experienced a 1% increase in research funding during the past year—from \$111.6 million in fiscal year 2002 to \$112.4 million in 2003. In fact, all research funding at Dartmouth rose only modestly, to \$165 million from last year’s total of approximately \$157 million. Until now, DMS has had several years of huge jumps in research income, with the biggest one being the 38% increase from 2001 to 2002 (see the Winter 2002 DARTMOUTH MEDICINE for details).

More than 67% of DMS’s research funding comes from the National Institutes of Health, 8% from the state of New Hampshire, almost 8% from foundations, almost 8% from corporations, and the rest from assorted other sources.

According to the Dartmouth Office of Sponsored Research, the slower growth in funding during the past year may be attributable to smaller increases in the federal research budget.

**Totals:** The departments with the biggest totals in FY03 were Medicine (\$21 million), Psychiatry (\$18 million), Community and Family Medicine (\$18 million), Microbiology (\$11 million), Biochemistry (\$8 million), and Pharmacology-Toxicology (\$8 million). Departments showing the biggest increases included Genetics, Medicine, Psychiatry, and Radiology.

LAURA STEPHENSON CARTER

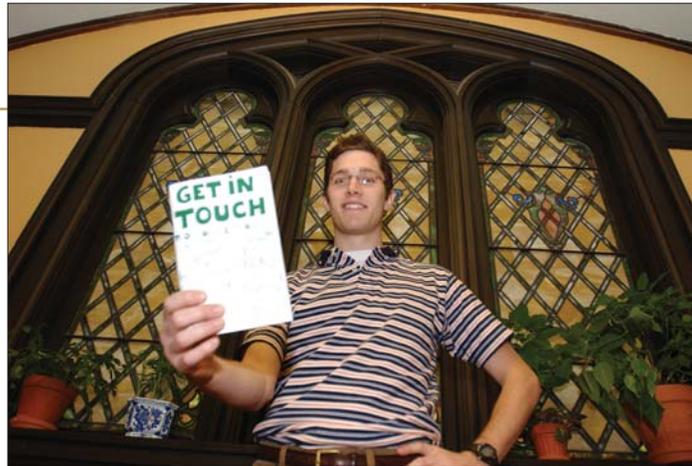
## New health guide for low-income patients was student handiwork

It's not often that a lowly medical student is feted at a community celebration. But in September, when the staff and patients of the Good Neighbor Health Clinic in White River Junction, Vt., threw a party to mark the publication of a new community health guide, the guest of honor was DMS student Stanley Weinberger, the driving force behind the project.

**Idea:** In 2001, Weinberger, then a second-year student, received a Schweitzer Fellowship to develop a directory for low-income residents of the Vermont and New Hampshire communities near Dartmouth. It was the kind of elegantly simple idea that made people wonder why no one had thought of it before.

As a volunteer at the Good Neighbor Clinic, which provides primary care to un- and under-insured patients, Weinberger had realized that the clinic's staff were asked a lot of questions not directly related to medicine but vital to patients' overall health. They were looking for advice on everything from domestic violence to affordable housing.

Working with Good Neighbor director Karen Woodbury and nurse case manager Ceil Furlong, Weinberger came up with the idea of compiling a comprehensive directory of services that could be put right in patients' hands. "Giving patients the ability to go seek care is a relatively easy way to affect their health,"



Stan Weinberger shows off the popular community health guide he put together.

Weinberger says. He titled the project "Get in TOUCH" (The Original Upper Valley Community Health Guide).

Two years later, "Get in TOUCH" appeared as a handsome, 100-page publication that includes information to help patients take charge of their own health as well as find a variety of medical and social services. It explains the basics of nutrition and meal-planning, for instance, as well as how to apply for food assistance programs.

**Input:** What makes the guide so useful, Furlong says, is that Weinberger sought lots of input. A focus group of eight patients or former patients advised him during the year it took to do the research and writing. "Without them, we wouldn't have thought of half the things we included," Furlong notes.

"They were a very important part of this project," Weinberger agrees. "We were lucky to have such a knowledgeable, proactive group. And they wanted to know about everything—not just how to find a dentist who accepts Medicaid, but things like transportation, jobs, spirituality." As a result, the guide grew well beyond Weinberger's original vi-

sion, but he believes it was essential to listen to the people who'd actually be using it.

"Doctors have a very patient-specific focus, rather than seeing the whole community," he says. "They tend to concentrate on a particular person's medical problem, but it's important to think about improving the health care of the entire community." In fact, Weinberger is taking this year off from his M.D. studies to earn an M.S. in the evaluative clinical sciences. "I'll always be interested in pediatrics," he adds, "but I'd like to stay involved in community health, too, especially access to health care."

"Get in TOUCH" is flying off the shelves, says Furlong. Within three months, only 500 copies remained from the first printing of 2,600, and plans were under way for a second printing. (For a PDF of the guide, go to [www.dartmouth.edu/dms](http://www.dartmouth.edu/dms) and do a search for "TOUCH.")

The guide's success, Furlong adds, is a direct result of "how much Stan valued what the patient focus group brought to the project and how well he listened to them. He's going to be a fantastic doctor."

CATHERINE TUDISH

## Report concludes that children's brains are "hardwired to connect"

Raising children has never been easy, but parenting presents particular challenges in the 21st century: Divorce rates are higher. Two incomes are a necessity for most families. There's less time for social activities, so participation in community groups—from bowling leagues to civic meetings—has deteriorated. At the same time, more kids than ever suffer from depression, anxiety, and attention deficit and conduct disorders.

Are those trends connected? A panel of 32 leading doctors, neuroscientists, scholars, and youth service professionals combined neural science with social science to find out. The resulting report, titled "Hardwired to Connect: The Scientific Case for Authoritative Communities," was released in September.

**Report:** "The infrastructure of the community has changed," explains child psychiatrist Kathleen Kovner Kline, M.D., a DMS faculty member and the lead author of the report. "People don't even get together for dinner parties like they used to."

The report concluded that the lack of connectedness in society is partly causing the high and rising rates of mental, emotional, and behavioral problems in today's youth. To help rebuild social connectedness and support optimal child development, the panel coined a new term: authoritative community.

"Authoritative communities

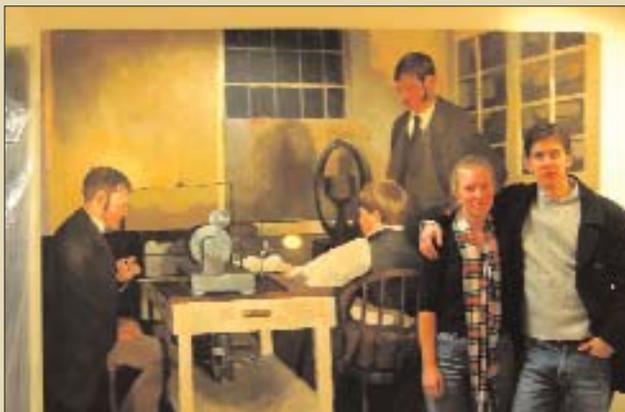
FINING SQUIRREL GRAPHICS

are groups of people who are committed to one another over time and pass on what it means to be a good person," says Kline. "It's a long-term, multigenerational investment."

This is a topic Kline has been interested in for some time. After finishing her child and adolescent fellowship at Dartmouth in 1997, she joined the faculty as a child psychiatrist. When she attended some lectures on a concept known as "civil society," she thought, "This is the bread and butter of child psychology. We evaluate the strength of a child's family as part of patient care because it deeply affects a child's well-being."

The biochemistry of social "connectedness" is well documented. Recent animal studies show that the ability and need to become attached to others is biologically programmed; for example, as male marmosets begin to care for their offspring, their levels of the hormone prolactin increase to reinforce the bonding process.

Scientific evidence demonstrates that children, too, are "hardwired to connect" on a biochemical level, first with their immediate family and then with the broader community. If that connection isn't there, then "the brain may not develop as it is supposed to," says Kline. "You can't change genes, but you can change how they are translated, and a nurturing environment can make a world of difference. Studies show that when infants and animals are well nurtured, they are more resilient and less likely to respond to stress in neg-



Dykstra and Dwaihy pose with one of their two life-sized paintings.

## Preserving the past in paint

Some people write about historical events to preserve the past. But DMS student Joseph Dwaihy and artist Sara Dykstra picked up paintbrushes rather than pens. They have just completed two historical paintings of DMS scenes, each six feet tall by eight feet wide, which will be displayed on the side walls in DMS's Chilcott Auditorium. One is of the first clinical x-ray in the U.S., which took place at Dartmouth in 1896. The other is of DMS founder Nathan Smith and two medical students making a house call on horseback in the late 1700s. Dwaihy, a second-year student, decided to do the project as part of an ongoing effort to incorporate the arts into the DMS curriculum and recruited his friend Dykstra to join in the effort.

The painting pictured above, depicting the first clinical x-ray, is based on a photograph taken in Reed Hall at Dartmouth in 1896. Dr. Gilman Frost, a DMS faculty member, and his brother Edwin, a Dartmouth astronomer, produced the x-ray after a 20-minute exposure. The achievement was published in *Science* on February 14, 1896.

Both Dwaihy and Dykstra are experienced painters and illustrators. Dwaihy has done figurative painting since high school, and Dykstra has a B.F.A. in painting from the Maryland Institute College of Art. For her senior thesis, on art as a resource for healing, she painted a series of 200 seven-inch by nine-inch paintings of the same rooftop scene in Baltimore, "melding the transition of light with the transition of time and process," she explains. She and Dwaihy also tried to create a sense of healing in their DMS paintings—along with a feeling of authenticity—by using sepia and earth tones.

Once the paintings are installed in Chilcott Auditorium, it will give medical students something to reflect on during the many hours they spend there in class. "We hope [the] paintings will highlight the rich history of medicine at Dartmouth," says Dwaihy, as well as the fact "that humanity has always been part of the practice of medicine."

M.C.W.

ative ways. It's not nature versus nurture—it's a dance between the two." Trying to understand that interplay, says Kline, is "really exciting work."

**Investment:** Change, however, will take a society-wide investment. Kline hopes that the report will foster more community activities—like 4-H, Scouts, and religious youth groups. "This is powerful stuff," says Kline. "We hope to get the word out and encourage support of these organizations."

As she teaches medical students and residents, Kline reminds them that what they do in their community and what they do with their families matters at the deepest biological levels. "I tell students that child and parent development go hand in hand. You are changed by the very act of becoming parents," says Kline. "Even if you're not a parent, you will become an aunt, uncle, neighbor, or teacher—still an important role."

And as a clinician, Kline tries to point patients back to their own traditions. "We need to help people rebuild community structures and pay attention to them. These communities—whether it be support groups, neighborhood groups, religious organizations, or youth groups—have proved to be physically beneficial, lowering stress and anxiety levels. As leaders in the community, physicians should encourage families to take the time to engage with other adults and children."

**Parent:** And as a parent herself of four children, Kline tries to practice what she preaches.

Laura Jean Whitcomb

## A JOURNALIST AT JAMA

When she was an undergraduate at UCLA, Julie Suzumi Young planned to go into journalism. She spent 40 hours a week working at the campus newspaper and was a reporting intern at the *Los Angeles Times*. The idea of being a doctor never crossed her mind. But now that she's a fourth-year student at DMS, she's back where she started career-wise—sort of.

Young is currently the deputy editor for the student section of the *Journal of the American Medical Association (JAMA)*—one of the best-read medical journals in the world. She'll be one of *Student JAMA's* nine student editors through June of 2005, when she'll also graduate (she's spreading her fourth year at DMS over two years so she can also discharge her editorial responsibilities). Each student editor is responsible for developing one theme issue a year—from writing the call for papers to directing the editorial review process—as well as for overseeing a special project.

Young says the stint has been “a trial by fire” but that “JAMA's editor-in-chief, Catherine DeAngelis, is extraordinarily approachable and really supportive of students. . . . Dr. DeAngelis gives us amusing but passionate homilies on the importance of integrity,” Young adds, noting that she and her fellow editors “don't even think about using a pen with the name of a pharmaceutical company on it in her presence.” A.S.



## RADIOLOGIC RECOGNITION

DHMC was recently named one of the country's top 10 hospitals in health-care imaging by *Health Imaging and IT (HIIT)* magazine. The publication solicited input from more than 10,000 specialists, administrators, consultants, and vendors to arrive at its top-10 list.

The magazine noted that it was at Dartmouth where the first clinical x-ray in the U.S. was performed—back in 1896—and that DHMC has continued to be an innovator in imaging and information technology. *HIIT* cited DHMC's success at digitizing all radiologic studies and at getting results to referring physicians quickly, as well as good

collaboration between the Department of Radiology and information systems experts. More than 200,000 radiologic exams—x-rays, CT scans, MRIs, and PET scans—are performed at DHMC annually. The only other New England facility in the top 10 was Massachusetts General Hospital. A.S.



## Simons elucidates mechanism of cellular “garbage disposal”

Cardiologist Michael Simons, M.D., has been tinkering with garbage disposals lately—not the kind in kitchen sinks, but the kind in human cells. He and a group of researchers—colleagues from Dartmouth, the University of Texas Health Science Center, and elsewhere—have discovered distinctive molecular mechanisms underlying the way certain compounds interact with proteasomes, known as the cellular garbage disposal system. Their findings, reported in the journal *Biochemistry* a few months ago, could ultimately lead to therapies for people with heart disease and cancer.

Each proteasome, a complex of enzymes with a cylinder-like core and a lid on its top and bottom, chews up proteins that a cell no longer needs. Proteasomes can be manipulated to slow or to accelerate the degradation of particular proteins, making them a potential target for therapeutic drugs.

**Compounds:** However, no one understood exactly how any of the therapeutic drugs or other compounds worked on proteasomes. Until now.

Simons, who is chief of cardiology and the director of DHMC's Angiogenesis Research Center, was investigating a growth factor known as PR39 (proline/arginine-rich peptide) when he discovered an unusual molecular process that enables it to be a proteasome inhibitor.

PR39 is an antibacterial peptide that stimulates angiogenesis—the growth of new blood vessels—in the myocardium, the middle layer of muscle in the heart wall. In addition, PR39 has been

shown to inhibit inflammatory responses and to kill bacteria.

Most proteasome inhibitors link to an active site on the protein-digesting enzymes inside the cylinder. PR39, however, binds to the outside of the cylinder and forces the proteasome into a dumbbell-like shape, restricting the types of proteins it can ingest and destroy. The shape-changing effects are reversible, too, suggesting that potential treatment options would be controllable.

These findings also provide insights into how proteasomes function in general. PR39 appears to regulate how proteasomes interact with the proteins that are destined for obliteration. Proteasomes are known to change shape when they interact with an inhibitor, but “this is a very unusual shape change,” says Simons. “It does not fit any known patterns.”

**Peptide:** Now the researchers are detailing the functions of this naturally occurring peptide. It was originally isolated from pig intestines for use in healing wounds because of its multiple abilities—it can stimulate vessel





MARK AUSTIN WASHBURN

**Michael Simons—the chief of cardiology as well as a noted researcher—has identified a molecular mechanism that may have implications for the treatment of both heart disease and cancer.**

growth, inhibit inflammatory responses, and kill bacteria. PR39 is an especially powerful agent for inducing vessel growth, and its angiogenic activity correlates with its ability to change the shape of proteasomes.

One result is that it prevents the degradation of genes that activate several different angiogenic cascades. PR39 can also prevent the proteasome from destroying a certain molecule that inhibits a nuclear factor controlling cell growth and inflammation. And high levels of the molecule impede cell growth, which has implications for its use against cancers. Simons speculates that by changing peptide structure, the dual effects of stimulating and stopping growth can be separated.

“This is a new mechanism of action, a new class of inhibitors, and has interesting therapeutic implications,” he concludes.

Laura Stephenson Carter

## Wall stress analysis: A new way to measure aneurysm rupture risk

A team of researchers at Dartmouth has developed a new way of determining which aneurysms are the deadliest. The rupture of an aneurysm—a ballooning in the wall of an artery—is usually fatal. But it can be difficult to determine which aneurysms are in most danger of rupturing, so that risk can be accurately weighed against the risk of surgically repairing the weakened blood vessel wall.

**Method:** For over 40 years, the standard method of predicting rupture risk has been by measuring the diameter of the aneurysm. But researchers at DMS and Dartmouth’s Thayer School of Engineering have developed a new, noninvasive method, called “wall stress analysis,” to assess the likelihood that an abdominal aortic aneurysm (AAA) will rupture. A study of the new method, published in the *Journal of Vascular Surgery*, showed wall stress to be much more accurate than diameter at predicting an aneurysm’s risk of rupture. That’s an important piece of information in deciding which patients with AAAs should have surgery and which should merely be observed.

The strategy for deciding if an AAA requires surgery encompasses “the risk of rupture and the risk of repair in the context of the patient’s life expectancy,” explains Mark Fillinger, M.D., an associate professor of surgery at DMS and the lead author of

the study. “Generally we have a reasonably good idea of a patient’s life expectancy, and we have a fairly good idea of the risks of the various procedures.” But, he says, “rupture risk is still nebulous.”

For AAAs up to 5.5 centimeters in diameter, the belief has been that the risk of rupture is low. Therefore, the usual strategy has been to forego surgery and closely observe the patient. And for AAAs larger than 5.5 centimeters, it has been common to operate under the premise that the risk of rupture outweighs the risk of surgery.

“For the majority of patients, I would say our current methods work pretty well. They’ve been refined over the last 40 to 50 years,” says Fillinger. But an aneurysm’s size is not the only determinant of whether it will rupture. Some small AAAs rupture, while some large ones never rupture. And since most patients with AAAs are between the ages of 55 and 70, the risk of surgery is often not trivial.

So Fillinger teamed up with fellow vascular surgeon Jack Cronenwett, M.D., and several engineering colleagues to develop a way of measuring stress within the wall of an aneurysm. Their study comparing the new and old ways of assessing rupture risk included more than 100 patients at DHMC who were under observation for AAAs.

The new method involves processing CT scans of AAAs through a series of computer programs, including an engineering process called finite element analysis. Finite element analysis

segments a structure into thousands of small elements, enabling a computer to calculate the wall stress in all areas of a three-dimensional shape. The end result is a stress map displaying gradations of stress across the surface of the aneurysm.

**Stress:** The method’s ability to predict an aneurysm’s risk of rupture was much more accurate than measuring the aneurysm’s diameter—showing a 25-fold increase in rupture risk for patients with high wall stress, and only a nine-fold increase in rupture risk for patients with large-diameter AAAs. Further, in those patients whose AAAs did rupture, if the location of the rupture could be identified it correlated exactly with the location of the highest level of wall stress.

Fillinger and his colleagues are currently planning a multicenter study to further test this approach to assessing AAAs. Among other issues, they hope to explore the effects of gender and of the presence of arterial plaque on rupture risk.

Nicole Ballew



**More patients may be able to avoid the risk of surgery thanks to a new way of analyzing an aneurysm’s risk of rupture.**

F O C U S O N R E C E N T R E S E A R C H

This section includes brief accounts of selected Dartmouth research projects on biomedical and health-policy issues.

**More on mad cow mutations**

Yet another piece in the puzzle of prion diseases was reported recently by DMS's Surachai Supattapone, M.D., Ph.D. The October 16 issue of the journal *Nature* contained a paper on his team's discovery that RNA plays a role in converting a normal prion protein into a mutant that can lead to mad cow disease and other fatal brain illnesses. "It has been well proven that nucleic acids, including RNA, are not part of the infectious agent, so it's an ironic twist that a catalyst for the reaction may be RNA," says Supattapone. See the Fall issue of DARTMOUTH MEDICINE for details of another recent discovery by the team.

**Not a blind alley**

Retinitis pigmentosa is a degenerative eye disease that affects 1.5 million people worldwide. It is caused by a mutation in a photoreceptor that triggers a cascade of retinal changes, and it often leads to blindness by age 40. But DMS researcher John Hwa, M.D., Ph.D., has shown it may be possible to stop the changes that start in the photoreceptor rhodopsin, which detects low levels of light. "Basically, if we can stabilize the second domino after the first has fallen, we will be on our way to a cure for this disease," says Hwa.

**Desperately seeking experienced surgeons**

Seeking surgeons who perform a given procedure frequently appears to improve patients' odds of surviving major operations, according to a study led by DMS surgeon John Birkmeyer, M.D. The findings, reported in the *New England Journal of Medicine*, show that patients of high-volume surgeons have lower death rates even when the operation is done in a low-volume hos-

pital, while those of low-volume surgeons have higher deaths rates no matter where the surgery takes place. The likelihood of death for low-volume surgeons' patients was as much as four times greater than for those of high-volume surgeons. The study was based on 474,000 Medicare patients who had one of eight commonly performed cardiac or cancer procedures.

**Subtle but sobering news**

Some sobering news was contained in a recent study of 32 female alcoholics. Women whose blood pressure rose even briefly when they quit drinking exhibited continuing cardiovascular problems weeks later, long after their blood pressure was back to normal. Unlike newly sober men, women appear not to show a sudden leap in blood pressure—but the effects in women last longer. The study was published in the journal *Alcoholism: Clinical and Experimental Research*. Lead author Nancy Bernardy, Ph.D., a research assistant professor of psychiatry at DMS, calls the differences "subtle but important." The next step, she says, is to see how long the effects last.

**Racing to erase disparities in care**

It's not news that there are racial disparities in the U.S. health-care system. But a recent study led by James Weinstein, D.O., chair of orthopaedics at DMS, has shown that when gender and geography are also added to the mix, the disparities are even greater. Published in the *New England Journal of Medicine*, the study was based on 430,000 total knee replacements. For example, says Weinstein, "while a black woman in Los Angeles is just as likely to have this operation as a white woman, a black man's chance of having the procedure is half that of his white counterpart."

**Targeting the AIDS-TB combo**

AIDS and TB are both serious diseases in their own right. Together, they're a lethal combination: Tuberculosis, according to

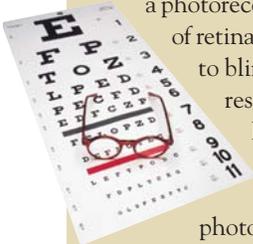
the National Institute of Allergy and Infectious Disease, is "the major attributable cause of death" in patients with HIV/AIDS. But their weakened immune systems make the standard, live TB vaccine dangerous. So it was good news when an international team of researchers headed by DMS's Fordham von Reyn, M.D., announced an innovative killed-TB vaccine that appears to be effective and safe for AIDS patients. The strategy was reported in the journal *AIDS*.

**What goes up can come down**

Antipsychotic medications may be a godsend to the frame of mind for patients with depression, bipolar disorder, and schizophrenia—but not to their frame. Weight gain is a common side effect of such drugs. But now DMS psychiatrist Douglas Noordsy, M.D., has shown that such gains need not be permanent. He studied 35 patients taking an antipsychotic; they gained an average of 65 pounds over 33 months but were able to shed two-thirds of the increase three to five years later. The study was published in the *Journal of Clinical Psychiatry*. Noordsy told Reuters that the reason such a result hadn't been shown before is because most studies are too short-term.

**Bad news about beta-carotene**

Beta-carotene is not always beneficial, according to a recent study led by DMS epidemiologist John Baron, M.D. The vitamin A precursor has been shown to reduce the risk that colorectal polyps will recur and develop into cancerous tumors. But that finding does not pertain to those who smoke and drink regularly, Baron and colleagues recently determined. Paradoxically, in smokers and drinkers, beta-carotene more than doubled the incidence of polyp recurrence. The study was published in the *Journal of the National Cancer Institute*.





## I N V E S T I G A T O R   I N S I G H T

## Five more faculty members join the ranks of the newly “retired”

Several more faculty members joined the emeritus ranks during the last year. All of them are keeping busy in retirement—and some even continue to teach and practice medicine.

**Peter Mogielnicki, M.D.**, a professor of medicine, says, “I feel like I’m more professionally productive now than when I was working.” The chief of medicine since 1977 at the White River Junction, Vt., VA Medical Center, he kept plenty busy seeing patients, teaching, and dealing with administrative matters.

In retirement, he still sees patients two days a week and teaches at DMS. But he’s no longer “shuffling papers,” as he puts it, so he has time to do something he’s always dreamed of—explore opportunities in international health.

He and his wife, Nancy, a pediatric physician’s assistant at DHMC, “have made a commitment to sampling a variety of venues in international health,” he says. So far they’ve worked at a rural clinic in Honduras, and in March they’ll be teaching nonphysician providers in rural Thailand. He is also interested in getting first-hand experience with international disease-eradication programs.

**Charles Marrin, M.B., B.S.**, a professor of surgery, retired early to avoid the risk, he says, of “dying in the harness. . . . I found I was able to do nothing but heart surgery. I’d come home, have

In this section, we highlight the human side of biomedical investigation, putting a few questions to a researcher at DMS-DHMC.

**Ta Yuan Chang, Ph.D.**  
Professor and Chair of Biochemistry

*T.Y. Chang joined the DMS faculty in 1976 and was named chair of the Department of Biochemistry in 2000. His primary research interest is the molecular regulation of cholesterol metabolism; in the mid-1990s, his lab cloned the gene for an enzyme responsible for storing cholesterol.*

### How did you decide to become a scientist?

By default. I am not tall enough to be a good basketball player, nor am I talented enough to be a professional musician or singer!

### If you weren’t a scientist, what would you probably be?

I might be a mediocre professional singer in Taiwan, where I was raised and educated till I graduated from National Taiwan University with a bachelor’s degree in chemistry.

Starting in high school, I had training in vocal music that continued for several years. In my junior year in college, I was a second-place winner in a vocal competition in Taiwan. I like singing, but I never made it as a professional singer. I have a bass-baritone voice, and I used to sing art songs by Schubert, Brahms, Handel, Scarlatti, et cetera. I can also sing songs by Rodgers and Hammerstein, as well as art songs and folk songs by Chinese composers. I still sing for audiences on occasion.

### What famous scientist, living or dead, would you most like to meet?

There are many distinguished living ones that I would like to meet whom I have not met yet. For dead ones—Linus Pauling, Robert Woodward, and Hans Krebs.

### Of what professional accomplishment are you most proud?

When I started our lab in the late 1970s, I was advised by many experienced scientists that what we wished to do—take a mammalian cell mutant approach to the study of cholesterol metabolism—was extremely risky and nearly im-

possible. But we succeeded in developing mammalian cell mutants that have allowed investigators to identify several genes, including ACAT [acyl coenzyme A: cholesterol acyltransferase], which play key roles in storing cholesterol and in the development of atherosclerosis.

My wife, Cathy, who is a much better experimental scientist than I am, accomplished the identification of the first ACAT gene in my laboratory.

### What about you might surprise most people?

Despite repeated effort, I can never become a good experimental scientist in the lab.

### What Web site do you use most often?

Pubcrawler [<http://pubcrawler.gen.tcd.ie/>] is a very useful site for us to keep track of the latest research developments. It’s a free alerting service that scans daily updates to the Medline and GenBank databases.

### What are your favorite nonwork activities?

Listening to classical music and watching the wild birds in the backyard of our house.

### What’s the last movie you saw?

I saw one when I was riding on a Dartmouth Coach bus last week. It was not too interesting.

### What advice would you offer to someone new in your field?

A young scientist should focus his or her efforts to accomplish something distinguished—some-

thing that can stand the trial of time. But there is no need to accomplish this task in a hurry.

**If you could change one thing about your career, what would it be?**

Nothing.



### Finish this sentence: If I had more time I would . . .

Learn to play one or two musical instruments.

## THIS ICEMAN COMPETETH

Dartmouth otolaryngologist Dudley Weider, M.D., got his first taste of the Northeast when he competed at Lake Placid in speed-skating championships as “a high school kid” in the mid-1950s. He liked the region so much that he headed east from Ohio to go to college at Dartmouth, where he tried to combine competitive skating with academics. Ranked among the top 10 speed-skaters in the U.S., he recalls during his first year at Dartmouth hitchhiking to Saranac Lake to compete. “Then,” he says wryly, “I decided I’d better study.”

His studies took Weider to medical school at Tufts, but in 1974 he returned to Dartmouth as a member of the DMS faculty.

Then, several years ago, Weider took up speed-skating again—and once again achieved a national ranking. In recent years, he has placed second or third at the U.S. Marathon Speed-Skating Championships at both the 25-kilometer and 50-kilometer distances (that’s about 15 and 30 miles, respectively) in the 60-and-over age group.

And as of press time for this issue, he was sharpening his blades for the 2004 national championships, scheduled for mid-January on nearby Lake Morey in Fairlee, Vt. M.M.C.



## A PLATFORM FOR POLICY

Stump speeches in the 21st century rarely rise to the eloquence—and almost never to the length—that they did in the age of orators like Abraham Lincoln. But today’s emphasis on the pithy sound bite means it’s especially hard for topics as complex as health-care policy to get their due.

It occurred to officials at DHMC, located in the nation’s first-primary state, that they were in an ideal position to do something about that. So Dartmouth-Hitchcock has invited every declared Democratic candidate for the presidency, as well as President Bush, to deliver a “health policy grand rounds” lecture at DHMC.

Four candidates (Howard Dean, John Kerry, Joseph Lieberman, and Dennis Kucinich) had already put in an appearance by the time this issue went to press. It’s expected that the rest of the Democrats will have trooped through by the time of the New Hampshire primary and that Bush (or perhaps a designate) will make a presentation after the primary. The series will be covered in detail in an upcoming issue. (No sound bites—well, make that “sight bites”—for DARTMOUTH MEDICINE!) A.S.



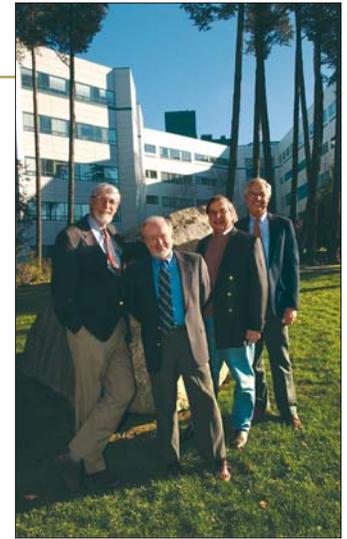
supper, fall asleep over the newspaper, go to bed, and get up in the morning.”

He’s now spending time with his family, his church, a school he’s on the board of, and other community organizations. He even has time to go for walks—on snowshoes in the winter—with his wife and dogs.

Marrin was born in Santa Monica, Calif., but raised and educated in England. He returned to the U.S. for his surgical residency at Columbia and joined the DMS faculty in 1981. He has been very involved in national quality-improvement efforts and in 1987 helped found the Northern New England Cardiovascular Group, a regional consortium aimed at improving heart surgery outcomes.

**Robert Cimis**, M.D., an associate professor of medicine, arrived at Dartmouth in 1969 as a senior medical resident. He soon became fascinated with gastroenterology and so in 1970 “drafted a proposal to institute a gastrointestinal fellowship here at DHMC and nominated myself as the first trainee.” Since then, he adds, “many successful and notable gastroenterologists have graduated from our program.” Cimis also did a fellowship in hepatology at Yale before returning to DMS to practice “a blend of internal medicine, gastroenterology, and liver disease.”

Later, he helped expand the DHMC colonoscopy service and “traveled around the country,” he says, “giving seminars and tutorials to primary-care physicians, encouraging them to use flexible fiberoptic sigmoidoscopy” for colon-cancer screening.



FLYING SQUIRREL GRAPHICS

These recent DMS retirees are, from the left, Robert Cimis, Bill Culp, Charles Marrin, and Peter Mogielnicki.

Cimis plans to continue seeing patients and teaching part-time and to travel with his wife—they’ve visited England, Scotland, and Italy so far. His hobbies include fishing, gardening, cooking, and photography. And “I now own a new Martin 12-string guitar,” he adds.

**Stanley Carpenter**, Ph.D., a professor of anatomy, came to Dartmouth in the mid-1960s as a research fellow in pathology. In 1966, he helped refound the Department of Anatomy, which had lost departmental status at DMS in the 1950s. He served as its chair from 1978 to 1980 and again from 1991 to 2000.

Carpenter had longtime research interests in placental development and reproductive pathology—particularly the effects of trace metals on birth defects—but also enjoyed teaching and carried a substantial teaching load. In 1992, he was awarded the graduating class’s Basic Science Teaching Award. From 1986 to 1992, he also taught in

Dartmouth's master of arts in liberal studies program. The students, mostly older, "were scared to death to take a science course," he told DARTMOUTH MEDICINE in 1994. "We eliminated their fear, we made it understandable, and they loved it."

Carpenter is now enjoying a new home in Florida, where he moved a few months ago.

**William Culp**, Ph.D., an associate professor of biochemistry, says after so many years of working, he is "learning to live without a schedule. It's been an interesting experience." He still teaches biochemistry at DMS but also has time to volunteer at the Orford, N.H., library, where he is a trustee, and to travel. He joined DMS's biochemistry faculty in 1974 and left 10 years later to earn a master's degree in management at MIT. When he returned to Dartmouth in 1987, he gave up his lab to work in the DMS dean's office—first as assistant dean for graduate education and later as associate dean for academic affairs. He also served for a time as director of the C. Everett Koop Institute.

Culp's accomplishments include helping to orchestrate the 1993 move into the Borwell Research Building; structuring a faculty compensation program; and helping to reinstitute DMS's tenure program.

There is one thing that Culp hopes to "schedule" in retirement—volunteering at a local elementary school. "I thought I would be a good resource person for someone who is stretched very thin," he says.

LAURA STEPHENSON CARTER

## Building a bridge between ballet and medical education

What in the world does ballet have to do with medicine? Sure, a doctor might treat an occasional dancer with a sprain or strain. But it's a reach to imagine that dancers have something to offer doctors, much less hard-working medical students. Talk to DMS student Elizabeth Eisenhardt, however, or fellow students who have taken her ballet classes, and suddenly the answer to that question broadens.

Eisenhardt, a second-year M.D. student, has spent her free time for the past few months giving ballet lessons to other graduate students under the auspices of a Schweitzer Fellowship. Prospective fellows propose a community service project; if a project is funded (as were eight at DMS this year) a student must spend at least 200 hours on it.

When Eisenhardt conceived of her project last March, she knew she wanted to do something involving the arts. "I was thinking, 'What could I do for the community?'" she explains. She ultimately decided to "share my love of dance."

**Flexible:** The class meets twice a week at Dartmouth's Alumni Gym and now has 10 graduate students in its ranks—from DMS, as well as Dartmouth's Tuck School of Business and nearby Vermont Law School. Beginners and experts alike find common ground in Eisenhardt's flexible curriculum, where students can learn everything from

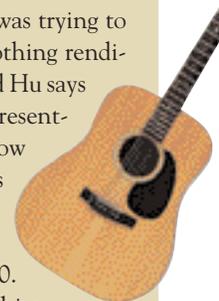
## THE SINGING PSYCHIATRIST

Psychiatrist Da-Shih Hu, M.D., plays no favorites—in song, that is. He has eclectic musical tastes and has performed everything from musicals with the North Country Community Theater and choral classics with the Bel Canto Chamber Singers, to operatic fare with Opera North and doo-wop with an *a cappella* ensemble called "The Charades."

He once even sang along with a patient who was trying to calm down before undergoing a procedure—a soothing rendition of "Apple Blossom Time," as he recalls it. And Hu says another time, when there was a guitar handy, he presented a patient's case in song. "Just spontaneous," is how he says he often approaches singing, though he's also studied technique with several teachers.

Hu graduated from Jefferson Medical College and came to DHMC for residency training in 1980. Ever since, he's pursued his interests in both psychiatry and music in the Upper Valley.

The two have much in common, he believes. "Psychiatry helps with my singing, because it's a way to understand more about the self and emotions," Hu says, while "the study of music helps me understand the process of learning something new. That's a lot of psychiatric practice," he explains, "teaching people how to break old habits and form new ones." M.M.C.



## COMMUTING COMMENDATION

There's an award or a top-10 list for every achievement imaginable these days. But anyone who's ever sat in rush-hour traffic on the way to work would affirm the validity of the first-ever list of "New England's Best Workplaces for Commuters."

The fact that residents of the rural Upper Valley joke about "rush minute" may have something to do with the fact that DHMC made the list. But the award also recognizes the Medical Center's commitment to reducing traffic and air pollution and easing life for commuters. Its programs for employees include subsidized bus transportation, preferential parking for car pools, a car-pool matching program, varied work shifts, and on-site child care.

The average U.S. commuter "is spending more than an entire workweek stuck in traffic each year," notes Patty Klavon of the Environmental Protection Agency, explaining the rationale for the new recognition program. The list was compiled by a coalition of transportation and business organizations. A.S.



the rudimentary tendue to the challenging pirouette.

But she hopes to do more than cultivate graceful moves. Eisenhardt also emphasizes the indirect rewards of ballet. Her goal is to provide her students not only with regular exercise but also with a relaxing break from studying—something that any graduate student is able to appreciate. “It’s a great stress relief for me,” says Jennifer Yates, one of Eisenhardt’s pupils and a first-year DMS student. “It’s kind of like my little free time away from studying . . . something I can always count on to do twice a week.”

**Body:** Eisenhardt also believes that dance enriches medical education, bringing perspective to the memorization of chemical pathways and the dissection of cadavers. “The human body is an amazing instrument,” she asserts. “I think it’s important to remind the physician of the power of the human body.”

Yates says Eisenhardt’s fascination with that power is evident as she helps her students “appreciate the human body and everything it can do.”

In fact, it was dance that drew Eisenhardt to medicine. She grew up dancing in rural Castine, Maine, trained with a professional company in Boston, and then performed professionally with the James Sewall Ballet in Minneapolis.

Yet health concerns within the professional dance community soon impelled Eisenhardt to look elsewhere. “I wasn’t comfortable with a lot of the health issues in the ballet world,” she



This sleek 1935 Bugatti, owned by Dartmouth neurologist Peter Williamson, won top honors at the nation’s most prestigious car show.

### Bugatti brings home “Best in Show” prize

When Dartmouth neurologist Peter Williamson, M.D., and his wife, Susan, were looking at properties prior to moving to the Upper Valley in 1991, she looked at the houses while he checked out the surrounding land. He wanted to make sure there was a good building site for a garage. They found a place in the hills of Lyme, N.H., that suited both their needs. His cars, Williamson notes a tad sheepishly, have a great view.

The cars in question are Williamson’s collection of Bugattis, known for their superior performance. It’s a hobby he’s pursued for 35 years. But the cars don’t just sit in that garage with the nice view. He drives them regularly and enters them in rallies all over—such as the Colorado Grand, which covers over 1,000 miles in the Rocky Mountains and raises money for a residence for HIV patients. And as president of the Bugatti Club of America, Williamson has for the past five years organized a rally right in the Upper Valley. The last weekend in September, some 30 Bugattis and their owners gather on the Green in Lyme. The rally lasts three or four days, with the assembled group heading out for morning and afternoon drives punctuated by leisurely lunches at area inns.

Williamson, who is director of the DHMC Epilepsy Program, shows his cars as well. In fact, he recently won the automotive equivalent of the World Series: the “Best in Show” prize at the country’s most prestigious car show—the Pebble Beach Concours D’Elegance in California. There, he rubbed elbows on the world-renowned golf course with the likes of Jay Leno and Ralph Lauren (with whose Bugatti Williamson’s went head gasket-to-head gasket for the show’s top award). Williamson’s entry—a rare 1935 model—beat out some 250 other cars, including 40 other Bugattis. Delighted with the experience and the prize, Williamson says simply, “It was fun.” K.F.B.

says, noting that malnourishment and anorexia are prevalent. The mindset of many dancers, she explains, was “if that’s what you had to do to get ahead, that’s what you did.” A career in medicine seemed like a natural continuation of her interest in the human body.

Eisenhardt is also a member of the DMS Arts and Humanities Council, a group that seeks to increase medical students’ exposure to the humanities. “Our goal is to create more well-rounded physicians who are better able to relate to their patients,” she says.

**Balance:** Eisenhardt contends that striking a balance between intense study and personal pursuits is especially crucial for medical professionals. “You’ll be a better physician if you’re at peace with yourself,” she says.

PETER OSTENDORP



Eisenhardt, in blue, leads a ballet class.

## Web conferencing: The newest wrinkle in distance learning

Imagine a miniature classroom that could fit right on your desk. Now imagine attending a conference in that little classroom whenever it was most convenient for you.

Such a feat is already possible—via computer. Dartmouth-Hitchcock Medical Center recently began offering medical conferences, lectures, and other health information over the World Wide Web. Now, health-care providers, students, and even patients are able to view conferences on any computer—either live, as they are happening, or later, at a more convenient time.

**Pioneer:** DHMC pioneered a related technology—videoconferencing—in 1968 with the launch of INTERACT, an interactive television system. The network, which relied on land-based microwave transmitters to provide communications, grew from linking DHMC with Claremont General Hospital (now Valley Regional Hospital) for psychiatric consultations, to linking seven New Hampshire and Vermont hospitals. INTERACT was the first system in the nation to connect an academic medical center with primary-care physicians.

In the 1980s, DHMC was in the process of developing a satellite-based network that could theoretically have connected as many as 50 hospitals if they subscribed to the system. But fund-



**This array of satellite dishes on the roof of DHMC was once key to the institution's long-distance conference capabilities—but now professional meetings and even patient lectures are offered via the Web and thus are available on any computer.**

ing shortages kept that concept from reaching its full potential.

More recently, DHMC has had a videoconferencing system using microwave or dial-up communications that can link from two to seven sites. It is used for administrative meetings, distance learning, and grand rounds presentations. But videoconferencing requires a television monitor and videoconferencing equipment at both ends—the site where the educational session or meeting is taking place and any site(s) where other participants are located.

But the newest technology—Web-based conferencing—requires only that the conference site be able to transmit the program. Participants need nothing more than a computer on which to receive it.

Such a system is especially convenient for patients who need to attend educational sessions but live some distance from DHMC. For example, obese patients who are prospective candidates for gastric bypass surgery are required to attend three lectures before they are eligible to even be considered for the procedure. Previously, such patients

had to drive to DHMC in Lebanon, which for some can be quite a distance, to attend the lectures. With the new Web-based system, however, patients are able

to view the lectures at home.

Medical staff can attend conferences via the Web, too. The cost of doing a Web conference is a fraction of the cost of traditional videoconferencing, according to Ray Kulig, the coordinator of DHMC's videoconferencing services. A six-hour conference, for instance, might cost a hospital several hundred dollars to receive via traditional videoconferencing, but watching the conference through a Web connection on an LCD projector costs nothing.

**Option:** There are still more advantages to a Web conference. Questions can be e-mailed to conference speakers and documents can be downloaded before or during a conference. A Web production can originate as easily in a private office as in a large auditorium. And viewers have the option of watching the conference live or later.

DHMC is one of the first hospitals in the nation to use Web-conferencing technology for patient education, says Kulig. More information on DHMC's Web-conferencing services is available at [www.dhvideoconferences.org](http://www.dhvideoconferences.org).

Laura Stephenson Carter

## Worthy of Note: Honors, awards, appointments, etc.

The **Master's of Public Health Program** at DMS was awarded the maximum accreditation term of five years by the Council on Education for Public Health. A full five-year accreditation for a new public health program is an uncommon distinction; to qualify for accreditation, an M.P.H. program has to meet the council's requirements in five core areas: social and behavioral sciences, epidemiology, biostatistics, environmental health, and health-services administration. DMS's M.P.H. program was started in 2002 and is offered through the Center for the Evaluative Clinical Sciences; 50 students are enrolled in the program for the 2003-04 academic year.

DHMC was ranked as one of the nation's **Top 100 Cardiac Hospitals** by Solucient, a leading health-care data firm. Dartmouth-Hitchcock was listed with 30 teaching hospitals that have cardiovascular residencies; other hospitals in this category included Beth Israel Deaconess, Massachusetts General, and the Cleveland Clinic. The ranking criteria include risk-adjusted medical mortality and surgical mortality, rate of complications, severity-adjusted average length of stay, and procedure volume. The rankings were published in *Modern Healthcare* magazine.

**Stephen Bartels, M.D.**, an associate professor of psychiatry, was the cochair of a national consensus panel charged with revis-

MEDIA MENTIONS: DMS

ing the recommended standard of care for nursing home residents with symptoms of depression and dementia. The panel was convened by the American Association for Geriatric Psychiatry, of which Bartels is a past president, and the American Geriatrics Society.

**Jocelyn Chertoff, M.D.**, an associate professor of radiology and of obstetrics and gynecology, was elected to the board of directors of the Association of University Radiologists.

**David Bzik, Ph.D.**, a professor of microbiology and immunology, was appointed to the AIDS-Associated Opportunistic Infections and Cancer Study Section for the *Scientific Review*.

**James Gorham, M.D., Ph.D.**, an assistant professor of pathology and of microbiology and immunology, was appointed to the national Immunobiology of Liver Disease Committee of the American Liver Foundation and the American Association for the Study of Liver Diseases.

**Kevin Dickey, M.D.**, an associate professor of radiology, was named associate editor of the journal *Radiology*.

**Robert Harris, M.D.**, an associate professor of radiology and of obstetrics and gynecology, was named chair of the Genitourinary and Ob-Gyn Program Committee of the American Roentgen Ray Society.

**Mohammad Khan, Ph.D.**, a research assistant professor of radiology, was awarded the Melvin H. Knisely Award for Outstanding Research in Oxygen Transport to Tissue.

**William Petty, M.D.**, an instruc-

Among the people and programs coming in for prominent media coverage in recent months was neurologist **James Bernat, M.D.** The former chair of the American Academy of Neurology's ethics committee, he was asked to comment on the high-profile Florida right-to-die case of Terri Schiavo.



The 39-year-old Schiavo has been in a persistent vegetative state since she suffered a heart attack 13 years ago. National Public Radio's Richard Knox reported that "Dr. James Bernat of Dartmouth . . . says that a persistent vegetative state can be a subtle diagnosis to make." The *Chicago Tribune* described the difficulty in such patients of distinguishing between conscious movements and reflexive reactions: "The human body has a repertoire of reflexes that respond to things like noxious stimuli," said Dr. James Bernat of Dartmouth. 'It's very difficult to determine the level of awareness in a case like this. There is no laboratory test.'" He was also quoted in the *New York Times* as saying that "assuming she is in a vegetative state, I can say with medical certainty that there is no realistic hope that she'll recover."

Health services researcher **Elliott Fisher, M.D.**, has also been much in the media eye. The *New York Times* turned to him for commentary on the fact that South Florida patients "have more office visits, see more specialists, and have more diagnostic tests than almost anywhere else in the country. . . . But there is no apparent medical benefit, Dr. Fisher said." *Money* magazine, in a feature on "the world's most expensive health care," wrote:



"Across hospitals that are very similar in quality, people can be treated in very different ways,' explains Dr. Elliott Fisher of . . . Dartmouth's Center for the Evaluative Clinical Sciences, which during the past 14 years has been studying weird regional variations in how doctors in the U.S. decide what care their patients need." Finally, Fisher wrote an editorial for the *New England Journal of Medicine* on a study showing better outcomes from cutting hospitalization rates in half within the VA

system—and once again reporters came knocking on his door. "At a time when the rest of the country has been going to unfettered access to specialists and little actual management of care . . . the VA is going in the opposite direction," he told the *New York Times*. And in *USA Today*, he explained that "hospitals can be dangerous places if you don't need to be there."

"The DES Legacy" was the headline on a *Washington Post* feature about a hormone given to pregnant women from 1938 to 1971, under the belief that it would prevent miscarriages. Instead, DES led "to a host of health problems for mother and child. . . . Questions about DES and its possible



link to sexual orientation and transgender characteristics have also emerged in the last few years. 'It's a very interesting question and frustrating for us,' said **Linda Titus-Ernstoff**, a professor at Dartmouth who authored a paper this year on the psychosocial characteristics of men and women exposed to DES in the womb. As for 'transgender mix-ups,' she said, evidence has been 'extremely rare, so we can't study it in a scientific way.'"

When a U.S. soldier was charged with cowardice after he "experienced a strong physical reaction—



sweating, vomiting, headaches" upon seeing the dismembered body of an Iraqi soldier, the *Palm Beach Post* reported on the event: "In the military, this is called combat stress reaction. It's also called battle fatigue,' says Dr. **Matthew Friedman**, executive director of the VA's National Center for Post-Traumatic Stress Disorder and a professor of psychiatry at Dartmouth. . . . 'In my opinion,' Friedman said, 'an acute stress reaction is powerful and involuntary.' . . . Experts say it is wrong to confuse a stress reaction with cowardice."

A recent report from a commission headed by a DMS faculty member got national media attention. "Environment not only influences children but can alter their biology" was the way the *Wall*

A N D D H M C I N T H E N E W S



*Street Journal* put the report's conclusion. According to the *Washington Post*, the report said "it is the weakening of the connections between children and their extended families and communities that is causing a virtual epidemic of emotional and behavioral problems." And the report's principal author, **Kathleen Kovner Kline**, told *Good Morning America's* Diane Sawyer: "What we need is a particular form of engagement [with children] that is both warm and loving and also has expectations and limits." (See page 10 in this issue for more on the report.)

*The Infinite Mind*, a program on National Public Radio, had DMS family physician



**Allen Dietrich**, M.D., as a guest recently. The topic was mental health treatment in primary-care settings. "Primary-care doctors," said the show's host, "often misdiagnose mental health problems or provide inadequate treatment and follow-up." One reason, noted Dietrich, is that "the doctor may not have enough time in a standard office visit to uncover the underlying emotional or psychological issues."

The unconventional pastime of competitive eating—downing as many hot dogs as possible in 12 minutes, for example—was the



subject of a recent feature in the *New York Times Magazine*. The story explained that the stomach signals the brain when a person is hungry and then "sends a second signal—'I'm full'—to the brain. It

is a signal that successful competitive eaters are able, it seems, to disregard. 'It may be that they are eating so fast that those signals don't have time to register,' says Dr. **Brian Lacy**, a gastroenterologist at Dartmouth. 'It's also possible that they've taught themselves to ignore them. . . . It's probably not the best eating behavior,' Lacy concedes."

"Disrespect and bad manners have risen to new heights" among American children, said a recent column in the *Washington Post*.



It suggested some reasons for the trend and some commonsense advice for parents eager to buck it: "Experts partially blame the media. 'Television plays a huge role in instructing children how they should act,' says **Steven Atkins**, an associate professor of child and adolescent psychiatry at Dartmouth. Atkins contends that much of the behavior portrayed on TV is rude."

A Dartmouth psychiatrist, noted the *Washington Post*, is a national spokesperson for "people of a certain age who suffer mental illness. . . . 'It's easy for the informed physician or family member to say, 'If I had all these problems, I would want to die,'" said psychiatrist **Stephen Bartels** of Dartmouth. The individual internalizes that message, too. 'All these things come together so that older adults get less access to mental health care than any other age group.'" Bartels co-chaired a recent panel that issued national geriatric psychiatry recommendations.

The effect of volume on surgical outcomes was the subject of a study that was widely covered. "Lead researcher **John Birkmeyer**, chief of general surgery at Dartmouth, said the study shows that patients 'need to be mind-



ful of picking a surgeon that does a procedure often,'" said the *Wall Street Journal*. "The preponderance of the evidence says that volume counts," Birkmeyer told ABC. And *Time* said the researchers had "reviewed the charts of nearly 475,000 Medicare patients, all of whom had undergone one of eight high-risk operations."

There has been a recent surge in the banking of stem-cell-rich blood from newborns'

umbilical cords. The controversial and expensive practice was the subject of a *Houston Chronicle* article that cited a cord-blood expert at DMS. The first successful cord-blood transplant was in 1988. "Since then, between 2,500 and 3,000 umbilical-cord stem-cell transplants have been done worldwide, said **Zbigniew Szczepiorkowski**, chair of a committee on cord-blood-bank standards for the American Association of Blood Banks. . . . The Food and Drug Administration is working on guidelines to govern cord-blood banks **Szczepiorkowski** said. But for now, no one oversees them."

The impact of smoking in the movies on teens' smoking behavior continues to make headlines. The *Chicago Tribune* recently quoted "**Madeline Dalton**, a cancer-prevention researcher at Dartmouth. 'The tobacco industry has known for years that celebrities and movies can persuade kids to start smoking. The images of cinema are more powerful than any advertising or marketing campaign.' She



and colleagues . . . discovered that kids who watch the most smoking scenes are 2.7 times more likely to start a smoking habit within two years than children who watch the fewest smoking scenes."

In a story on the national blood supply, the *Baltimore Sun* quoted some experts who say stringent new regulations have made donor blood safer. "But others say the AIDS disaster has made regulators and blood banks too skittish. 'The FDA is still feeling the sting from HIV,' said Dartmouth pathologist **James AuBuchon**, M.D. He argues that by reducing the number of donors, the deferrals are likely doing more harm than good. 'The blood supply is very tenuous. Shortages we used to see only during certain holidays are becoming more frequent,' said AuBuchon."

tor in medicine (hematology-oncology), received a Clinical Research in Lung Cancer Award from the American College of Chest Physicians, the CHEST Foundation, and the LUNGEvity Foundation.

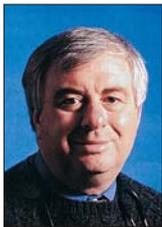
**Patricia Carney, Ph.D.** (pictured below), an associate professor of community and family medicine;



**David Nierenberg, M.D.**, a professor of medicine and of pharmacology and toxicology; and six colleagues received an

award for the “Most Innovative Poster in Medical Education” from the Association of American Medical Colleges’ Northeast Group on Educational Affairs. Their poster was titled “Using an Evaluation Working Group to Assess and Track Education Processes and Outcomes.”

**Joseph O’Donnell, M.D.** (pictured below), a professor of medicine



and the senior advising dean at DMS, with a colleague from Brown Medical School—

**Cathy Dube, Ph.D.**, a senior lecturer in community health and family medicine—received a third-place award from the American Association for Cancer Education for a poster presentation titled “Curriculum Resource for Men’s Health: Clinical Communication for Male Cancer Screening.”

**Martha McLeod, M.S.**, an instructor in community and family



Carmen Barnes, left, and Erica Chung, right—pictured with a friend—spent “uno noche” this fall raising funds for a Guatemalan clinic.

## Students fund-raise with fajitas

**A**uthentic fajitas, albondigas, and enchiladas would probably pique the interest of any international foodie. But two medical students made sure the spice was *just* right when they cooked up such fare for a fund-raiser in September. DMS second-years Carmen Barnes and Erica Chung organized the benefit—billed as “Noche Latina”—to raise awareness of and funds for a small Guatemalan clinic where they had worked during the summer.

In addition to the food that Barnes and Chung prepared from scratch, the event featured salsa-dancing lessons taught by another second-year student, Amanda Gann. More than 70 community members, fellow students, and faculty crowded into Dartmouth’s Tom Dent cabin to eat and dance, and Barnes and Chung raised nearly \$800 for the Clinica Cristiana.

“It’s important for us to have personal responsibility,” Barnes says, reflecting on the event’s success and their motivation for organizing it. “Many of these Central and South American clinics depend on the generosity of strangers, and it’s important for us to know that we can have an effect on the lives of people who live there. Even two dollars can go a long way.”

The funds raised from Noche Latina will most likely be used for medications, maintenance, and employee salaries at the Clinica Cristiana. Barnes and Chung are thrilled to have been able to continue their contributions to the clinic, and they want to sustain a connection to their work there. Their project in Guatemala—one of many overseen by the Dartmouth International Health Group—included establishing a children’s nutrition program and a women’s health program.

“It was a very positive thing to be able to influence how we would serve the people, and our energy kept us going through the summer,” Chung says. “But now,” she concludes, “it is important to have more volunteers and funds to keep the clinic going through the year.”

K.M.

medicine, received the 2003 Rural Partnership Award from the New Hampshire Rural Development Council.

**Stephen Marion**, vice president for regional planning at DHMC, was presented with the New Hampshire Hospital Association President’s Award in recognition of his 18 years of service on the New Hampshire Certificate of Need Board.

**Stanley Weinberger**, a third-year medical student, is DMS’s Rolf C. Syvertsen Fellow for 2003-04 (see page 10 for more about Weinberger). In addition, five fourth-year students were selected as Syvertsen Scholars: **Danielle Adams, Joren Keylock, Fremonta Meyer, Symeon Missios, and Sarah Pitts.**

Six fourth-year medical students were elected to the DMS chapter of the Alpha Omega Alpha national medical honor society: **Danielle Adams, Marc Brazie, Matthew Crowley, Marta Hristova, Fremonta Meyer, and Craig Strauss.**

**Jason Kemp**, a fourth-year medical student, was awarded a Pisanano Foundation Scholarship, recognizing his commitment to family practice. He is the first DMS student to receive the national scholarship.

First-year medical students **Chris Allen, Kathryn Donhauser, Elizabeth Fingar, Lisa Norlander, and Sharon Silveira** were named to the national executive board of the Family Medicine Interest Group.

**Jamie Guth**, the director of public affairs and marketing for DHMC, recently received an appointment as a public member of the District I Advisory Council for the American College of Obstetrics and Gynecologists.

PAGES PAST



In this section, we highlight tidbits from past issues of the magazine. These messages from yesteryear remind us of the pace of change as well as of some timeless truths.

From the Fall 1981 issue

This magazine was just five years old, and Dartmouth's Norris Cotton Cancer Center not yet 10 years old, when the magazine published its first feature about cancer. We've run dozens more features about cancer research and cancer care in the 22 years since then—including one in this issue, which makes it timely to share an excerpt from that first such piece:

"New Hampshire had one of the highest cancer death rates in the country in 1970. Yet New Hampshire's cancer incidence was no higher than the national average. . . . Extensive analysis, done in the late 1960s, pinpointed inadequate cancer-treatment facilities and a need for more oncologists as being possible reasons for New Hampshire's high cancer death rate."

The article explained that three key individuals (pictured below), plus two federal grants, brought about the 1972 establishment of the Cancer Center and an expansion in 1977.

"Cancer no longer invariably kills," the article went on. "More and more cancer patients across the nation are surviving—and leading active, productive lives. The change has been dramatic: As recently as 25 years ago, fewer than one in four survived the disease; now, about one of every two can be cured or at least gain a prolonged disease-free period."

That 1981 feature was written by Katharine Phillips—a 1977 graduate of Dartmouth College who was then the communications coordinator for the Norris Cotton Cancer Center. Phillips came to be so intrigued by medicine that a few years later she applied to DMS, was accepted, and graduated in 1987. Today, she is a professor of psychiatry at Brown Medical School.



Three people were key to the creation of Dartmouth's Cancer Center—from the left, U.S. Senator Norris Cotton, Dr. Ross McIntyre, and Dr. Frank Lane. They're pictured reviewing plans for a 1977 addition.

**Cynthia Stewart**, associate director of the biomedical libraries, was selected to participate in the National Library of Medicine/Association of Academic Health Sciences Libraries Leadership Fellowship Program.

**Donna Crowley**, M.S., R.N., the nursing director for neuroscience and ENT at DHMC, received the 2003 Nursing Management Excellence Award from the New Hampshire Organization of Nurse Leaders. Crowley is also the incoming president of the organization.

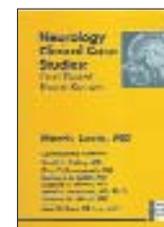
Dartmouth-Hitchcock Medical Center was once again named by *Business NH Magazine* to its annual **Best Companies to Work For** listing. Last year, DHMC was the first hospital ever included, and it was ranked fifth in the large-employer category. This year, DHMC moved up to second place in the category.

The **Neuroscience Center at Dartmouth** (NCD) has been named an "Allied Department" in the Carnegie Initiative on the Doctorate (CID). The CID, a division of the Carnegie Foundation, is a multiyear research program aimed at improving doctoral education in American universities and colleges. As an allied department, the NCD will help form a network in the field of neuroscience and serve as a source of information on CID studies. (See page 58 for a profile of the NCD's director.)

The White River Junction, Vt., **VA Medical Center** was awarded the Secretary of Veterans Affairs Robert W. Carey Organizational Excellence Award for the second consecutive year.

New on the bookshelf:  
Recent releases by  
DMS faculty authors

*Neurology Clinical Case Studies: Oral Board Exam Review*. Edited by Morris Levin, M.D., assistant professor of neurology and psychiatry at DMS; Anadem Publishing; 2003.



This book is designed to help neurologists prepare for the American Board of Psychiatry and

Neurology oral exam and to help neurology residents with case analysis and presentation. It contains 93 cases structured so readers can develop a summary, differential diagnosis, and treatment plan and then compare their findings to the authors'.

*Atlas of Cosmetic Surgery*. Edited by Michael Kaminer, M.D., adjunct assistant professor of dermatology at DMS; and Jeffery Dover, M.D., Kenneth Arndt, M.D., both adjunct professors of dermatology at DMS; W.B. Saunders Company; 2002. This



interdisciplinary textbook contains literature reviews of various cosmetic procedures and details about how to perform them. Topics covered include postoperative pain and nausea management, laser hair removal, liposuction, and related psychosocial issues. ■