

F A C T S & F I G U R E S

**Risky business**

**Looking at likelihood**

*American Medical News*, noting that “misunderstanding risk can lead patients to make decisions that may not be in their best interest,” cited the lifetime risk of:

**Dying from a car crash if you are in the car**

1 in 242

**Having a lower limb amputated if you are diabetic**

1 in 3,300

**Having a severe allergic reaction to the measles-mumps-rubella vaccine**

1 in 1,000,000

**Dying of measles, mumps, or rubella if you are not vaccinated**

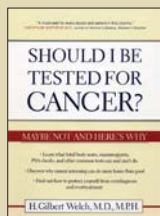
1 in 2,500 to 5,000

**Dying of those diseases if you are vaccinated**

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**Calculations about cancer**

Dr. H. Gilbert Welch, a DMS faculty member, just published a book clarifying the benefits *and* risks of cancer screening decisions. At the... well, risk... of oversimplifyng a complex topic, here are a few statistics from it:



**Rank of colon cancer, among all kinds of cancer, in number of deaths in the United States during 2003**

2

**Number of 50-year-old U.S. men who will avoid death from colon cancer in the next 10 years due to fecal occult blood testing**

1 in 1,000

**Number of 50-year-old U.S. men who will receive no benefit in the next 10 years from fecal occult blood testing**

999 in 1,000

**Study documents strong enthusiasm for cancer screening**

For years, public-health agencies and medical professionals have been promoting the benefits of screening to detect cancer early. So three DMS researchers—Lisa Schwartz, M.D., Steven Woloshin, M.D., and H. Gilbert Welch, M.D., M.P.H.—decided to explore how enthusiastic the public is about early screening. Their findings were published in January in the *Journal of the American Medical Association*.

**Beliefs:** They conducted phone interviews with 500 adults who had never had cancer. The study participants were asked about several common cancer screening tests—colonoscopy or sigmoidoscopy for colon cancer, Pap smears for cervical cancer, mammography for breast cancer, and PSA testing for prostate cancer. The survey assessed respondents’ beliefs about early detection and their attitudes about false-positive results.

The research team, which is based at the White River Junction, Vt., VA Medical Center, found that the public is “very enthusiastic” about early screening: 87% of respondents believe routine cancer screening is almost always a good idea, and 74% think early detection saves lives most or all of the time. Two-thirds said they would want to be screened for a cancer even if it was untreatable.

In fact, the respondents’ attitudes toward screening seemed to go beyond mere enthusiasm.

“Our sense was that people didn’t see it as a decision,” says Schwartz. “They saw it more as an obligation.” This is due in part, she theorizes, to strong preconceptions about what such tests can do. In turn, this makes it hard for people to realize that there are not only potential benefits but also potential harms from screening.

“You can always find something abnormal” from screening, explains Woloshin. “The question is, does it matter? What may not be clear in patients’ minds when they agree to screening is that they could be opening a Pandora’s box.” Often, an abnormality picked up in early screening leads to a series of invasive, traumatic, and possibly disfiguring procedures. Given that, is screening worthwhile?

**Relief:** According to this study, the answer for most patients is overwhelmingly yes. For example, 38% of respondents had experienced at least one false-positive result, with a waiting period from the false alarm to the results showing that they did not, in fact, have cancer ranging from two weeks to over a month. Many described this time as either “very scary” or “the scariest time of my life.” Yet 98% were glad they’d had the test. “The relief that they don’t have cancer overwhelms people’s ability to recognize that the testing and fear may have been unnecessary,” says Schwartz.

Taking their inquiry a step further, the research team asked how patients would respond if their doctors recommended less frequent screening. For all tests,



Steve Woloshin and Lisa Schwartz (pictured above) and Gil Welch (see the box on page 3 for word of a new book he just published) recently released a study on the public's attitudes about cancer screening.

FLYING SQUIRREL GRAPHICS

asm that the study documented is probably the result of an effective but one-sided campaign by public-health agencies and physicians.

"The message has been that the patient is always better off" being screened, says Welch. Physicians often don't discuss with patients the chance

a majority of those surveyed said they would overrule their physician; for example, 74% would seek colonoscopy or sigmoidoscopy even if their physician advised against it.

**Scan:** The survey also asked respondents about their attitudes regarding total-body CT scanning—a new technology that's been publicized as a way to find early cancer, though no medical organization has endorsed it and no studies have shown it to be beneficial or even safe.

Nevertheless, 86% of respondents said they would choose to have one if it was free, and 73% would choose such a scan over receiving a payment of \$1,000. People assume, says Woloshin, "that any test that detects cancer early is good."

But evidence for the efficacy of screening is variable. To make good decisions, say the researchers, people should avoid generalizing about tests and ask if studies have shown that a particular test saves lives. "It is not wrong to be enthusiastic about screening," says Schwartz, "but be an informed consumer."

The near-universal enthusi-

that tests can detect cancers that don't require treatment. Or that screening can trigger "a cascade of invasive testing and treatment that may not provide any benefit and may only, in fact, hurt people," says Schwartz.

"The problem," she adds, "is that many people diagnosed early with cancer say, 'Screening saved my life.' The people who are unnecessarily diagnosed and treated don't know who they are, and so there are no identifiable people to speak for the side of harm."

"What I was most struck by," says Welch of the study's results, "was this notion that someone is irresponsible if they decline screening. That makes it seem like it's going to be difficult to have an informed discussion about this topic."

**Balance:** What is needed, concludes Schwartz, is "a balanced message that gets out to the public about both the potential benefits and the potential harm, . . . creating an atmosphere where we can present this as a real decision for people—as opposed to an obligation."

KATHARINE FISHER BRITTON

## Research IDs new role for retinoids in slowing tumors

Retinoids, DMS researchers are finding, have the potential to treat a wider variety of cancers than had been thought. A recent study showed that removal of a protein called RIP140 greatly enhances the anti-cancer capabilities of retinoids—compounds derived from vitamin A.

**Target:** Working in a lab setting, the researchers treated testicular cancer cells with retinoids, which work through a process known as retinoic acid signaling. They bind to retinoid receptors, specific proteins in a cell's nucleus, and turn them on. The receptors then regulate the transcription of a panel of target genes. Earlier DMS studies had shown that a product of one of these genes is RIP140.

RIP140 is responsible for repressing the retinoid receptors, adversely affecting their ability to differentiate cancer cells—in other words, make them mature into normal cells. "It's an unusual instance when the drug, retinoic acid, induces its own repressor," says Kristina White, lead author of the paper reporting the results and a graduate student in pharmacology and toxicology. The paper was published in the *Journal of Biological Chemistry*.

What White and her colleagues discov-

ered is that if RIP140 was inhibited, and then the cancer cells were treated with retinoic acid (RA, a major active retinoid), the RA was much more effective in causing differentiation and slowing cancer growth.

**RA:** "One of the findings was that if you inhibit RIP140 by using a technique that degrades the message of RIP140, . . . and you treat with RA, all the other target genes are expressed much faster and to higher levels," explains the lab's principal investigator, Michael Spinella, Ph.D. "Kristina looked for differentiation, and she found out that cancer cells differentiated [in] two days with RA if she first removed the RIP140." With RIP140 present, it takes five days to see any change in cancer cells.

"As far as we can see," says White, "there's no other compensatory repressors. . . . It's pretty obvious that when you remove this protein [RIP140], nothing else is taking its place."

Retinoids exist naturally in the diet in cheese, fish-liver oils, and dark green vegetables. For

FLYING SQUIRREL GRAPHICS



Kristina White, right, and Mike Spinella have been investigating the anticancer capabilities of retinoids.

medical use, drug companies modify natural retinoids so they're less toxic and more effective in treating cancer.

RA has long been known to have anticancer properties; it is FDA-approved for treating acute promyelocytic leukemia and a few very rare cancers, and it's being studied for the treatment of lung and breast cancer. White, Spinella, and others are studying how retinoids and RIP140 affect two forms of breast cancer—hormone-dependent and non-hormone-dependent.

For example, RIP140 may play an important role in treating a kind of breast cancer that needs estrogen to grow. "RA can treat hormone-dependent cancers, and RA induces this repressor called RIP140," explains White. "And other research has shown that RIP140 can inhibit the estrogen-receptor pathway. Our theory is that RA induces RIP140, [which] switches to the estrogen-receptor pathway and is able to shut it down. However," she adds, "RIP140's role in breast cancer is more complicated, because it has the ability to block retinoids' action as well as the estrogen pathway."

Much work lies ahead to see how RA and RIP140 affect more complex models of cancer. The DMS researchers are hoping to ultimately use their findings to develop better differentiation-based strategies against cancer. "We're trying to see how widely [RIP140] applies to other tumors and other types of cancer and eventually to start testing it on animal models," says Spinella.

MATTHEW C. WIENCKE

## Students strive to cultivate a different kind of competency

Roy Wade and Shirin Sioshansi, both second-year students at DMS, complement each other well. He describes himself as "laid-back"; she says she's "more assertive." She's petite; he's tall. He's African-American; she's Persian. Yet the two share a common passion and goal: to increase the cultural awareness of their classmates.

**Awareness:** Sioshansi, a member of the Dartmouth College Class of 2000, became interested in cultural awareness when she was an undergraduate, while doing an independent study on the history of African-Americans in medicine.

In the process of her research, Sioshansi says, she learned about "many atrocious things," such as the Tuskegee Experiment—a study of untreated syphilis in black males that continued for 32 years after the disease could be cured with penicillin.

As a result, she came to realize, there is a lack of trust for physicians in some cultures—something that she feels every medical student should understand.

Wade has come to agree with her. "Being an African-American," he says, "I've seen a lot of these racial experiences, and I just accept it as the way it is. Shirin will see something and say, 'That's just wrong,' and I'll say, 'That's just life.'"

"She's inspired me not to accept things that are wrong."

So the two of them teamed up to develop what they called a Cultural Competency Program. The project was funded in part by a grant from the Schweitzer Foundation, and its offerings are spanning this academic year.

The first event—held during orientation week last summer for first-year medical students—was a discussion of Ann Fadiman's National Book Award-winning chronicle, *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures*. In October, Wade and Sioshansi organized a workshop on social styles.

**Inequities:** In November, they held mock interviews where students could take medical histories from Hispanic and Russian volunteers, followed by a discussion about *20/20* and *Nightline* episodes on racial inequities. And in February, they helped organize a library grand rounds on cross-cultural resources; for a list, see [http://www.dartmouth.edu/~biomed/resources.html/cultural\\_comp.shtml](http://www.dartmouth.edu/~biomed/resources.html/cultural_comp.shtml).

The pair would like to see such offerings become part of the regular curriculum. According to their proposal for the Schweitzer Foundation grant, "a cultural competency program at DMS will help to foster the development of empowered physicians capable of meeting medical challenges facing those of diverse cultural backgrounds." Their



Second-year medical students Roy Wade and Shirin Sioshansi received a Schweitzer grant to develop a program that's aimed at increasing their fellow students' awareness of the impact of culture on care.

proposal stated several specific goals: "to educate future physicians on the health disparities among different ethnic groups; to explore how different cultures view medicine and healing; and to explore how to bridge cultural gaps between physicians and patients."

Although they used the term "cultural competency" in their proposal, Sioshansi and Wade now feel that "cultural awareness" better fits their objectives. "We want to empower our classmates," says Sioshansi, "without them having to learn every detail about every culture."

**Imparting:** There is actually a risk in imparting too much information, notes Wade. A physician can approach a patient with too many preconceptions based on the patient's membership in a certain culture—and be as biased as the physician who knows little. Their challenge, then, is to build awareness that cultural differences exist but that not all members of a culture will respond the same way.

"You have to know how to talk to the patient," says Wade. "But at the same time you have

to know . . .” He pauses, searching for the right word. “How to get information,” finishes Sioshansi.

The program has been well received, with as many as 40 to 50 students attending each session. Wade and Sioshansi are grateful to a number of advisers—including in DMS’s Office of Multicultural Affairs, which made it possible to provide food at most sessions. “That really helps with attendance,” says Sioshansi.

**Plans:** Wade has another two years at DMS. After he graduates, he plans to combine his M.D. with the Ph.D. in microbiology from Georgia Tech that he already holds and do research and perhaps teach at an inner-city hospital.

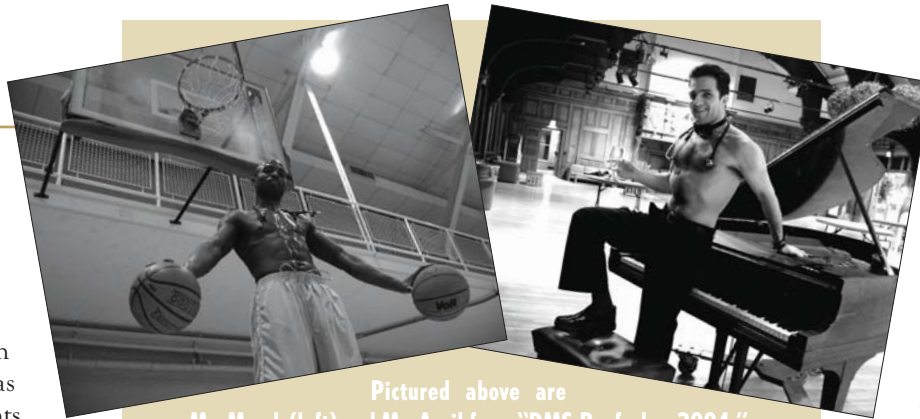
Sioshansi is in the Brown-Dartmouth Program, so in June she’ll be heading for Providence, R.I., to finish her last two years of medical school. Upon graduation, she’d like to work in an underserved urban area as well.

In the meantime, both of them are pleased that two current first-year students have expressed an interest in taking over their program.

“We hope to instill curiosity and appreciation,” says Wade of their year-long project.

“We’re not trying to get everyone to learn everything about all cultures,” adds Sioshansi. “Just to know that there are differences and that it’s really okay to ask someone about their religion or why they fast. It really is okay.”

KATHARINE FISHER BRITTON



Pictured above are Mr. March (left) and Mr. April from “DMS Beefcakes 2004.”

### Eye-catching calendar is for a good cause

Aiming at “something we could give to our grandmothers with a clear conscience” but also something alluring enough to raise money for a good cause, Dartmouth medical student David Sears had an idea: produce a calendar featuring a dozen of his fellow second-years. The result, “DMS Beefcakes 2004,” has sold almost 400 copies.

Sears kept costs down by taking all the pictures himself and having the calendars printed in bulk at the local Staples office-supply store. Good taste prevailed—the models bared only their chests, though Sears says that “Mr. December,” Michael Pirozzi, posed in a leopard-print loincloth. But that’s as racy as the calendar gets.

The concept came to him, Sears says, before the success of the current movie *Calendar Girls* (which he still hasn’t had time to see). He hit upon the fund-raising scheme after doing volunteer work in Bolivia last summer and realizing that medical supplies that go unused in the U.S. (after an expiration date has passed, for example) could be invaluable to clinics elsewhere in the world. But how to get them there?

Sears started out by giving the undertaking a name—the International Medical Supplies Project—and then got in touch with hospitals and clinics in the region, appealing for excess supplies, free pharmaceutical samples, and the like. Next he drew on the expertise of DMS faculty with international contacts who know what’s needed where. But there was still the hurdle of finding the money to pay for shipping. That’s where the “Beefcakes” calendar came in.

“If we can get our hands on things like older lab equipment, that would be really good,” Sears says. But the biggest need is for basic supplies. “Sterile equipment is really needed, including basic things like gloves,” he says. “Some of us have worked in clinics where the staff have to wash gloves and reuse them.”

Sears welcomes inquiries at [DMSBeefcakes@Dartmouth.edu](mailto:DMSBeefcakes@Dartmouth.edu) both about the calendar—copies of which were still available at press time (they sell for \$8.00 apiece)—and about the International Medical Supplies Project.

M.M.C.

### Study sought answers about sites for training

Is there a “best” setting in which to teach the delivery of ambulatory care? Since 95% of medical care

today takes place on an outpatient basis, assessing the quality of ambulatory-care education is increasingly important.

For third-year students just beginning their clinical rotations, a broad range of exposure to different kinds of patients and illnesses is clearly essential, explains Patricia Carney, Ph.D., assistant dean for medical education research at DMS.

**Settings:** In a paper published in the January issue of *Academic Medicine*, Carney and several colleagues evaluated the experiences of DMS students in family medicine clerkships in three different settings—academic medical centers (AMCs); other teaching hospitals, referred to as affiliated residency teaching sites (ARTs); and community-based practices (CBPs). Their goal was to determine whether the three different settings provide a comparable level of experience and education.

Over a five-year period, using a system called ClinEdDoc, students recorded such data as the ages, symptoms, procedures performed, and incidence of counseling (regarding weight loss and exercise, for example) for all patients they treated or observed. The students also recorded information about their interactions with preceptors, such as the

level of student independence in taking patient histories and the amount of feedback preceptors offered. In all, more than 9,000 student-patient encounters were analyzed for the study.

“We assumed that academic medical centers would be the gold standard,” Carney says. Instead, the study revealed that the

kinds of patients and the nature of preceptor involvement varied according to the setting—variations suggesting not that one learning environment is superior, but that the different sites teach complementary skills.

**Data:** Among the variations, Carney notes, is the fact that older patients are seen more of-

ten at CBPs than at AMCs or ARTs. Consequently, students at a community clinic have significantly more experience with the symptoms and diseases of the elderly, such as angina, coronary artery disease, and type 2 diabetes. On the other hand, students at both AMCs and ARTs are more likely to encounter in-

fants and young children and thus to have more experience with conditions such as asthma, developmental disorders, and musculoskeletal disorders.

Counseling skills—advising patients about such issues as alcohol and tobacco use, contraception, and weight control—were observed most often in

## Remembering Dr. William Mosenthal: A simple idea from a special surgeon

The more earth-shattering an idea, the more simply it can usually be stated. But it often takes someone special to see what, afterwards, appears to be crystal-clear. So it was with the concept of grouping a hospital’s sickest patients in one place and concentrating nursing resources there.

But that obvious idea eluded everyone until 1955. Before then, acute and nonacute patients would be sprinkled randomly through a hospital’s wards. Then Dartmouth surgeon William Mosenthal, M.D., established the first intensive-care unit in the nation.

“Special unit saves lives, nurses, money” was the title of a journal article that he wrote about the concept for *Modern Hospital*. The new unit not only improved care for very sick patients, but also reduced disturbances for the less ill. “It was an idea whose time had come,” Mosenthal was quoted as saying in a 1991 DARTMOUTH MEDICINE article. The system won widespread acclaim and very quickly became the standard procedure in American hospitals.



The late Bill Mosenthal is pictured here (at the head of the bed on the right) in the Mary Hitchcock intensive care unit—the first in the nation.

Mosenthal—who died on November 26, 2003, at age 87—was a 1938 graduate of Dartmouth College and joined the surgical staff at Mary Hitchcock in 1948, fresh out of residency at New York’s Roosevelt Hospital. The concept of the ICU may have been his most far-reaching contribution to medicine at Dartmouth, but it was far from his only one.

When he retired from practicing surgery in 1982, he became a full-time, much-loved teacher of anatomy to first-year medical students. He won the graduating class’s Basic Science Teaching Award three times. A benefit golf tournament run by students was named in his honor in 1985. A Dartmouth surgical society founded by students in 1995 also bears his name. He fully retired from teaching only a few months before his death. “He adored his students,” recalled his son, Richard Mosenthal, at his father’s memorial service, and shared with them “not only the science of medicine but also the ethical and moral aspects as well.

“One year,” went on his son, “he told me, ‘There’s no good, simple neuroanatomy text for first-year students, so I think I’ll write one, with a dissection guide. So he did—503 pages, typed in his study with two fingers on a manual Royal typewriter. He was overjoyed when he got a postcard from a first-year student at UCLA Med School who said, ‘You don’t know me . . . but your text helped me get through neuroanatomy, so thank you.’”

“Mose,” as he was widely known, was also an avid golfer. A lover of the language. A singer and French horn-player. A keen gardener. He taught anatomy at the local community college and took evening classes there himself—in disciplines as diverse as woodworking, beekeeping, and small-engine repair.

“He always experimented to improve things,” his son said in his eulogy, “whether it be procedures at the hospital, or training of nurses, or his garden—this year, his last, it was a warm bed for the melons, soaking peas, watering experiments for the tomatoes. He wanted to make complex things simple.” Indeed he did. D.C.G.

AMCs, even though, as Carney points out, the need for counseling in CBPs is likely just as high. Perhaps, she observes, CBP patients get counseled by a nurse or other staff member or referred to another community agency.

In any event, students in CBPs have far fewer opportunities to observe physicians offering counseling. However, Carney adds, these students might well take it upon themselves to counsel patients when relevant opportunities arise and thus become even more valuable members of the CBP team.

While students in both ARTs and CBPs tend to function more independently than those in AMCs, those in CBPs more often get a chance to perform common procedures such as suturing, skin biopsies, and flexible sigmoidoscopies.

**Cultures:** This, too, may be accounted for by differences in the educational cultures of the three settings. Carney speculates that in AMCs and ARTs, where residents are also trained, medical students have to compete with residents for procedural opportunities as well as preceptor attention. Also, physicians in CBPs may be more likely to perform procedures themselves rather than referring patients to specialists.

In the end, the study concludes that all three settings offer unique opportunities for learning. The gold standard, then, is not a single setting but a combination of experiences—a finding that should shape the future of ambulatory clerkships.

CATHERINE TUDISH

## Collecting more data to better assess medical education

David Nierenberg, M.D., is very proud of a recent letter inviting DMS to contribute a paper to the journal *Academic Medicine*. Dartmouth will be one of only eight schools worldwide represented in an upcoming issue on medical education research.

Dartmouth's inclusion in this select group, says Nierenberg, senior associate dean for medical education, is based on "a track record of productivity. DMS authors have contributed a number of excellent papers to *Academic Medicine*." (See the preceding story for an example.)

Nierenberg's newest project demonstrates why a journal devoted to medical education is taking note of Dartmouth. A custom-built program called D-MEDS (Dartmouth Medical Encounter Documentation System), will allow his team to record students' clinical experiences in rich detail. The classroom part of a medical education can be structured and measured fairly easily. But because clinical education takes place in a variety of settings, it's much harder to track what students learn in their encounters with patients.

**Ease:** DMS has been tracking such encounters for some time, using a system called ClinEdDoc. It's the ease and sophistication of D-MEDS that sets it apart. ClinEdDoc has been used only in three outpatient clerkships and is limited in the information it can gather. Nierenberg says if

the systems were cars, ClinEdDoc would be a basic model with stick shift and a small engine, while D-MEDS has automatic transmission and a more powerful engine. The "engineers" who developed D-MEDS included DMS clerkship and course directors, curriculum experts, students, computer experts, and librarians, plus a software company from Boston.

**Broad:** "D-MEDS takes advantage of all we've learned from ClinEdDoc," Nierenberg says, "but it can be used in all clerkships, rather than just the three outpatient ones, and it can track student learning in six broad areas of competency, rather than just one or two."

D-MEDS will assess students' progress in the six areas of competency now required of residents: medical knowledge; clinical skills; communication; professionalism; self-assessment of learning; and systems practice (the big picture of health care). As far as Nierenberg knows, D-MEDS is the first system to track these in medical students.

It was launched in January with three pilot programs, and by July it will be used in all clerkships. To use D-MEDS, students build a personal database of patients they've seen. They don't record patient names but enter medically relevant data such as age, gender, symptoms, diagnosis, and treatment. There are also text boxes where a student can document, for example, that she stayed an hour beyond the end



of her shift to care for a patient returning from surgery. Another section allows students to record skills learned and interactions with preceptors.

The data can be entered on any computer or a hand-held device like the one pictured above.

Medical students are notoriously pressed for time, but Nierenberg says logging an encounter takes only two to three minutes. "Initially, students are going to be concerned about the extra time," he admits. "But once they get used to it, it will become part of the routine."

Todd Burdette, a fourth-year student who helped develop D-MEDS, agrees that "once the system gets up and running, and the students have a record of their patient encounters to use in their residency interviews, they will see the value of the effort."

**Data:** Benefits from the project will accrue at many levels. Since students can track their own progress, says Nierenberg, they'll be able to make appropriate adjustments—for example, choosing to see a patient with asthma if they know they haven't yet done so. Clerkship directors can use the data to create more balanced programs. And it will be an asset for the Medical School in preparing for periodic accreditation reviews.

At press time, Nierenberg was designing an assessment form for the pilot D-MEDS programs—and also, no doubt, looking ahead to the new research papers it will make possible.

CATHERINE TUDISH

## End-of-life expert Ira Byock will lead palliative care unit

People whose lives were ending seemed to be falling through the cracks of the health-care system. Or so it seemed to a young doctor named Ira Byock, M.D., as he was doing his family medicine residency in the late 1970s in a Fresno-based program of the University of California-San Francisco. "As a sideline almost, being a good citizen at the medical center," he says, "I lent my time to helping what became a little fledgling hospice program get off the ground."

**Advocate:** Now an internationally renowned advocate for high-quality end-of-life care, Byock was recently named director of DHMC's Palliative Medicine Service. He believes Dartmouth is poised to become a recognized leader in end-of-life care.

"Our health-care system, and frankly our culture, are hungry for leadership within this realm," he says. "Dartmouth and the northern tier of New England are in a perfect position to assert that leadership." Byock feels that way because of DHMC's commitment to patient- and family-centered care and its already-strong program in palliative care. In addition, he points out, northern New England has many regional and local coalitions and groups "working toward improvement in the quality of the end of life."

Byock speaks and writes eloquently about dying as a natural part of human development,



**Ira Byock, the new director of palliative care at DHMC, is a prominent advocate for better integration between the U.S. systems of curative and palliative care.**

MARK AUSTIN WASHBURN

about how, just as it's possible to live well, it's possible to die well. In fact, Byock's first book was titled *Dying Well*. Published in 1997 by Putnam, it has become an authoritative resource on end-of-life issues.

In March, the Free Press, a division of Simon & Schuster, released his newest book, *The Four Things That Matter Most: A Book About Living*. It describes the importance of being able to say to loved ones: "Please forgive me," "I forgive you," "Thank you," and "I love you."

"There are discernible tasks or areas of human development that turn out to be very commonly important to people at the end of life," Byock explains. "It has to do with completing our relationships in the world—in our communities, with friends and acquaintances, as well as with close friends and family."

**Good-bye:** "Once you've said those things, often you are able then to say 'good-bye' whenever the good-bye has to happen," says Byock. "With those few

words—11 words—I've seen so many relationships be transformed at the end of life. And people's quality of life often paradoxically rises, becomes so much more peaceful, settled, satisfactory, full—ironically, when they're facing life's end."

Yet today's health-care system doesn't make such an approach to end-of-life care easy, Byock maintains. "We labor under a health system here in which, mostly through Medicare, people who are seriously ill are forced to choose between care for prolonging their life and care for comfort and quality of life.

"Right now," he explains, "the best-developed and only paid, comprehensive form of palliative care is hospice care, which is brilliant and extraordinary in its power. But you have to give up the care that you're getting through your oncologist or your cardiologist or your neurologist—whatever you're receiving for your illness—to get hospice care."

**Models:** But, Byock continues, "we have an opportunity in northern New England, through demonstration projects, to look at new models of delivering palliative care with life-prolonging care." In other published interviews, he has drawn a parallel between end-of-life care and pediatric care, noting that a well-child visit is precipitated not by a problem but simply by the need for some oversight of the normal but risky events of infancy. Similarly, he feels, care at the end of life should focus on that stage as part of normal human development, rather than as a problem.

Back when Byock was training to be a doctor, he never intended to become one of the world's gurus of palliative care. A graduate of the University of Colorado School of Medicine, he thought he was preparing to become a small-town physician in the Rocky Mountains. But he got interested in hospice care while he was still a resident.

**Hospice:** A few years later, after working in emergency and family medicine in Montana, he began serving as hospice medical director at Partners in Home Health Care in Missoula, Mont. In 1992, he became the director of the Palliative Care Service, a clinical consulting and teaching practice also based in Missoula. And in 1996, he cofounded "Life's End Institute: Missoula Demonstration Project" and served as its president and principal investigator.

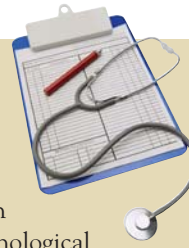
Nationally, Byock directs the Robert Wood Johnson Foundation's Promoting Excellence in End-of-Life Care Program and is a past president of the American Academy of Hospice and Palliative Medicine.

Byock's wife, Yvonne Corbeil, has also joined DHMC's Palliative Medicine Service, which is based in the Department of Anesthesiology. She was assistant director of palliative medicine at McGill from 1981 to 1996, before joining the Life's End Institute.

"We needn't wait till death is knocking at our door to realize that the treasures in our lives are the people we love or have loved," says Byock.

LAURA STEPHENSON CARTER

CLINICAL OBSERVATION



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

**Jeffrey Cohen, M.D.**

**Associate Professor of Medicine (Neurology)**

*Cohen joined the Dartmouth faculty in 2001. He specializes in neuromuscular diseases, especially polyneuropathy and amyotrophic lateral sclerosis (ALS), and is also interested in electrophysiology, muscle diseases, and the autonomic nervous system, particularly in diabetics. He is associate chief of DHMC's neurology section.*

**What made you decide to become a physician?**

I got a really bad case of the measles as a kid and had to be hospitalized. I wanted to become a doctor so I could understand medical treatments better. And, like most people who grew up in the 1960s, I wanted to help people.

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

I'd like to be an artist (a painter) or a writer. Actually, I've been writing short stories ever since I was a resident.



**What famous person, living or dead, would you most like to meet?**

When I was a teenager, I wanted to meet the rock musician Jimi Hendrix. As an adult, I wish I could meet the writer Franz Kafka.

**What kind of books do you read most often?**

I like short stories by Franz Kafka, Isaac Bashevis Singer, Ernest Hemingway, John Cheever, and Russian writers. The last books I read were John Updike's *Seek My Face* and Isaac Bashevis Singer's latest short-story collection.

**What are the greatest frustration and the greatest joy in your work?**

It's frustrating that there are very few effective treatments for neurological diseases. Our pa-

tients require a lot of time and attention, and there never seems to be enough time to meet all their psychological and physiological needs. My greatest joy is realizing I made a difference in the lives of some of my patients by making a diagnosis—especially an obscure diagnosis—that helped them. For example, I once diagnosed a patient with Miller Fisher syndrome, a variant of Guillain-Barré syndrome. We were able to treat the patient with intravenous immunoglobulin.

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

Here at DHMC, I helped to set up a multidisciplinary ALS clinic a few years ago. It has really improved the care of patients.

**Who was your medical mentor?**

The late Morris Bender, a world-renowned neurologist who was an emeritus professor at Mt. Sinai Medical Center when I did my residency there. He taught me to be a keen observer of patients and to accept clinical observations that do not conform to our usual beliefs.

**Is there anything that family and colleagues give you a hard time about?**

Sometimes they think I'm too silly. I like to play practical jokes on people in the department.

**What's your favorite nonwork activity?**

I love taking walks and thinking. I often walk on part of the Appalachian Trail near my home.

**What kind of music is in your CD-player right now?**

The Scandinavian rock group Kosheen, Cream, Eminem, and Miles Davis. I listen to anything, ranging from rock to jazz to rap to classical.

**What advice would you offer to someone brand new in your field or to someone contemplating entering it?**

I would tell someone to be able to accept uncertainty. Neurology is pretty elusive. It's not black and white like cardiology.

**Fill in the blank: "I'd rather be..."**

Guitarist Eric Clapton for a week.

**Combo of two agents shows promise against colorectal cancer**

It's long been known that vitamin D and calcium work both independently and in tandem to provide beneficial effects in the body. Vitamin D regulates the body's calcium levels by facilitating the small intestine's ability to absorb dietary calcium; by interacting with parathyroid hormone to enhance the mobilization of calcium from bone; and by decreasing the amount of calcium excreted by the kidneys. Now DMS researchers have found that vitamin D and calcium work together to reduce the risk of colorectal cancer, too.

**Finding:** The new finding actually came from a reanalysis of data gathered in a six-center study led by John Baron, M.D., a DMS professor of medicine and of community and family medicine. The study's initial finding was that calcium supplements can prevent colorectal polyps—benign tumors that can develop into colon cancer over time. For the new paper, lead author Maria Grau, M.D., M.P.H., with Baron and others, looked at whether vitamin D appeared to have anything to do with the action of the calcium supplements.

The study was a randomized, double-blind, placebo-controlled trial of calcium carbonate as a chemopreventive agent for the recurrence of large-







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

bowel adenomas, or polyps. To be eligible, subjects had to have had at least one microscopically confirmed tumor removed within three months of when the study started. Subjects also had to be endoscopically judged “clean” of remaining polyps; they were reexamined endoscopically one year and four years later. More than 800 people participated in the study.

The results of the new analysis, reported in the *Journal of the National Cancer Institute*, indicate that calcium and vitamin D work together to reduce the risk of colorectal adenoma recurrence. Calcium supplements prevented adenomas only among individuals with serum vitamin D levels that were higher than the average for the group.

**Doses:** It's not clear yet exactly how vitamin D and calcium interact, but the mechanism will certainly be the subject of many investigations to come. There are also questions about how best to exploit this new information. For example, what are the optimal doses of the two agents, and in what form are they maximally beneficial? Milk comes to mind, because it is rich in calcium and has long been fortified with vitamin D.

But Baron questions the wisdom of tampering with foods. Among other problems, it's much easier to get a toxic overdose of fat-soluble vitamins like vitamin D, than of water-soluble vitamins.

“No one ever said that it was going to be easy,” Baron says of the work that still lies ahead.

ROGER P. SMITH, PH.D.

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

**Constance Brinckerhoff, Ph.D.**

**Nathan Smith Professor of Medicine and of Biochemistry**

*Brinckerhoff joined the faculty in 1972; she is also associate dean for science education at DMS. Her research focuses on the degradation of connective tissue in arthritis and cancer.*

**If you weren't a scientist, what would you like to be?**

I have no idea. It didn't occur to me to be anything else.

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

There are several actually. I wouldn't mind meeting Marie Curie, Louis Pasteur, or Robert Koch. Those were people who were pioneers in their time. I'd like to see what they had to say. Pasteur and Koch, for example, were involved with understanding the principles of infection, at a time when little was known compared with what we know today.

**What's the last book that you read?**

*Seabiscuit*. I loved it. I saw the movie twice and thought they did a great job with the movie, but I thought the book was just incredible.

**What type of music do you enjoy?**

Classical. The *Trout Quintet* by Schubert. I like some Mozart—the Mozart *Requiem*—and Faure's requiems. And some more contemporary pieces—Harry Belafonte and Norah Jones.

**What's your favorite nonwork activity?**

Biking—on Martha's Vineyard, where there are fewer hills. Also walking, but I really do enjoy my bike. And going to the beach.

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

I would say there are two things. One was when President Freedman asked me to be Dartmouth's Presidential Lecturer in 1996, and the other one was when Smith College awarded me the Smith College Medal. That was important because

they were recognizing me for who I try to be every day and what I try to do every day.

**What are the greatest joy and the greatest frustration in your work?**

The greatest joy is when something finally works, and the greatest frustration is grant-writing. Another joy is watching a student really succeed—try really hard but bump up against something that's not working, but keep going and finally see it. Having the data come out in a way that you can interpret it and it leads you forward—whether you do it yourself or you watch somebody else do it—that's really fun.

**What do you like most about teaching?**

Conveying the information and watching the lights come on in somebody's eyes—you can see the fog lift. That's a great feeling. I'm heavily involved in teaching medical students biochemistry, which really is molecular and cell biology. I feel pretty passionately that this molecular approach to medicine is where medicine is at these days. All of us who teach in the biochemistry course, including myself, try very hard to convey the importance and the excitement of this to the first-year medical students. And that mole-



cular approach extends to the work that we do in the lab, trying to understand how connective tissues get degraded in arthritis and cancer.

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

I would like to have gotten an M.D. as well as a Ph.D., for a broader focus—to know more. Why I didn't do it is because I had three kids, and I wouldn't have given that up for anything.

**What advice would you offer to someone who is considering entering your field?**

Keep curious and don't be afraid to work hard.

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.

**Rooting out resistance**

Worldwide every year, malaria kills more than 2.7 million people and pneumonia more than half a million—so it's worrisome indeed that they are proving to be increasingly resistant to antibiotics. But biochemical studies conducted at DMS, using brewer's yeast as a surrogate disease model, has pinpointed the mutations responsible for the diseases' drug-resistance. The work, conducted in the lab of Bernard Trumpower, Ph.D., may lead to a new generation of more effective drugs. It was the cover article in the *Journal of Biological Chemistry*.

**It's elementary**

Increasing numbers of children are living, and attending school, with chronic health conditions—from asthma and diabetes to cancer and AIDS. But little has been known about the impact of that trend on the children themselves, on their classrooms, and on their teachers. So a DMS team led by pediatrician Ardis Olson, M.D., surveyed 384 educators in 23 elementary schools. They reported that teachers have an overall positive attitude, "though concerns about specific diseases and issues exist." The findings were published in the *Archives of Pediatrics and Adolescent Medicine*.

**Pick a good preceptor**

It's the advice given to every wide-eyed first-year college student: pick your courses based on how good the professor is. Now it's been validated as good advice for residents in pediatrics, too. DMS pediatrician Diane Kittredge, M.D., was coauthor of a study, published in *Ambulatory Pediatrics*, which concluded that two-thirds of current

pediatric residents are satisfied with the required primary-care portion of their training—and that the most satisfied residents were more likely to say they had a good mentor. The findings were based on anonymous surveys completed by 1,155 pediatric residents at 36 hospitals nationwide.

**Analyze this**

A team of Dartmouth researchers has developed an algorithm that might someday be used to analyze blood for diagnostic purposes. The process puts data from a mass spectrometer, a device that generates a molecular fingerprint of biological samples, through a series of calculations to distinguish healthy blood from diseased blood. In the study population, the algorithm detected ovarian cancer with virtual 100% accuracy and prostate cancer with about 95% accuracy. Conducted by M.D.-Ph.D. student Ryan Lilien and two computer scientists, the study was published in the *Journal of Computational Biology*.

**A simply super finding**

One can almost picture this phrase tripping off Julie Andrews's tongue in *Mary Poppins*: "Superparamagnetic vascular contrast agent." But try instead picturing it as a promising new agent that can be used in MRI studies to quantify brain blood volume. DMS radiologist John Dunn, M.D., and colleagues described their "simple, repeatable method of imaging brain microvascular volume" in the journal *Magnetic Resonance in Medicine*. The hope is that it can be used in longitudinal studies of angiogenesis—the body's ongoing regeneration of blood vessels.

**Axe the arsenic**

Arsenic—long a favorite of whodunit characters bent on murder—had recently been looked at by oncologists as a promising antitumor agent. But a new study has sent arsenic back to the pages of mystery novels. Though the metallic element is poisonous

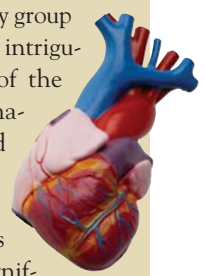
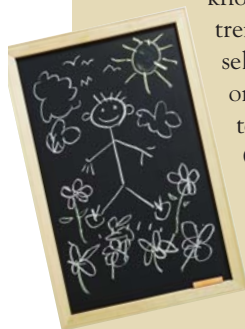
in large doses, smaller doses had been shown to be beneficial against leukemia. But in an *in vivo* study on mice with skin cancer, published in *Toxicological Sciences*, administration of small doses of arsenic was found to actually make tumors grow faster and spread more widely. The work was done by Aaron Barchow, M.D., a former member of the DMS faculty who is now at the University of Pittsburgh, with colleagues at Dartmouth and the University of Oklahoma.

**Battling bioterrorism**

DMS researchers are training their sights on bioterrorism, and their ammunition is gene transfer technology. Graduate student Catherine Ackley—working with Christopher Lowrey, M.D., a hematologist and a member of the pharmacology department, and others—described progress in developing DNA-based vaccines in a paper for *Expert Opinion on Biological Therapy*. While admitting that gene therapy is still in its infancy, Ackley and her colleagues feel that "it may be useful as a defensive strategy against bioterrorism agents, including infectious microbes and toxins."

**Inflammatory insight**

New research from a physiology group at Dartmouth has identified an intriguing target for manipulation of the body's response to inflammation—a receptor designated CD163. The researchers studied 18 patients who underwent coronary artery bypass surgery and reported finding significantly increased postoperative levels of CD163. "These findings show CD163 to be rapidly mobilized in response to systemic inflammatory stimuli," they wrote. The lead author of the paper, published in the journal *Atherosclerosis*, was Jonathan Goldstein, a 2003 DMS graduate; the work was done in the lab of Paul Guyre, Ph.D.



## Building humanity, empathy, and emotion into the curriculum

“We have curriculum to learn sciences, but not to develop empathy skills, relationship-building skills,” says Tommy Lee Woon, Dartmouth’s dean of pluralism and leadership. So Woon has developed a DMS elective—titled “Building Our Humanity: Culture, Emotions, and Medicine”—that addresses areas typically neglected in medical school coursework. He pioneered a similar course at Stanford before coming to Dartmouth in 2002.

**Feelings:** The DMS course emphasizes physician self-care, emotional literacy, and cultural versatility. Students are encouraged to disclose their innermost feelings, to gain insight into how to be vulnerable, and to learn how to create emotional safety for themselves.

“Students learn how to cry in my class,” Woon explains. “They learn to feel fear, too—that trembling, shaking kind of fear.”

Says third-year medical student Tara Thacker, who took the course in the fall, “It focuses on the concept of being able to discharge your emotions in a safe setting, so that [they don’t] become part of your interactions with others.”

**Small groups:** The course, which is limited to 10 students, puts students in pairs or small groups to develop and practice more effective listening and attending skills; a better understanding of emotional healing; an ability to respond to emotions; an ability



FIXING SQUIRREL GRAPHICS

Second-year medical student Stephanie Ajudua, who’s taken piano lessons for 10 years, enjoys the new upright in the student lounge.

### A new sounding board for students

A handsome 1928 Mason & Hamlin piano, owned for over 60 years by a late member of the DMS faculty, has a new home—in the Zimmerman Student Lounge at DHMC.

The piano had belonged since the 1930s to Radford Tanzer, M.D., who joined the DMS faculty in 1939 and was the founding chief of the Section of Plastic Surgery. When he bought the instrument, he was a resident at Doctors’ Hospital in New York and was taking private lessons from a teacher at the Manhattan School of Music. He needed a piano to practice on, and Henry Steinway, the great-grandson of the founder of Steinway & Sons and a patient of Tanzer’s at the time, helped him select this particular instrument.

The piano was given to DMS by Tanzer’s widow, Sheila Tanzer, after her husband’s death in June 2003. Internationally known for developing the standard technique for total ear reconstruction, Rad Tanzer was also a gifted pianist; he enjoyed playing Beethoven, Mozart, and Liszt.

Ted Yuo, DMS ’04, a friend of the Tanzers, was the one who suggested to Sheila Tanzer that she give the piano to the Medical School. Yuo, who plays the piano himself—both classical and pop—admits that “my talents are very limited and not suitable for much more than a personal tickling of the ivories. That said,” he adds, “I very much enjoy listening to others play.” So he hopes that the piano will be used not only for casual playing by students on their breaks from clinical rotations, but also for special events such as holiday parties and mini-concerts.

To Sheila Tanzer, the student lounge seemed an eminently appropriate place for the piano because her husband loved teaching. In fact, displayed above the piano is a 1961 photograph of Tanzer with several residents at his shoulder as he attends to a patient in his Hitchcock Clinic office. M.C.W.

to maintain one’s humanity; a commitment to eliminating health-care disparities and prejudices; and a professional dedication to equity and diversity in medicine.

“It’s helpful to have a place to discuss feelings,” Woon says. By coming to terms with their feelings, he hopes that students will become more compassionate physicians, will be better able to relate to patients from different cultures, and will be more responsive to patients who may be in pain or dying.

“I’m hoping the students will graduate from this program and become leaders in promoting a more relationship-centered kind of medicine,” explains Woon.

**Relationship skills:** The course appears to be working. DMS faculty members have noticed a marked improvement in the relationship skills of the students who have taken it so far. And some of the students themselves have even commented on the effect the course has had.

“I’ve been applying many of the skills I learned as a ‘counselor’ to my patients,” explains Thacker. “It has enabled me to get excellent histories, establish rapport, and in general will help me to provide better care for my patients.”

Laura Stephenson Carter



HIO PHOTOGRAPHERS

Tommy Lee Woon

## Bring! Let the escorts do the walking through the halls of DHMC

It's the changing of the guard: a cluster of red-jacketed men and pink-jacketed women swarms around a tiny table just off the main rotunda at DHMC. One crew of volunteer patient escorts has finished a four-hour shift and the next group is taking over.

The phone rings. One of the men answers it and scribbles some information on a white message pad. Then he grabs a wheelchair and heads for the elevator. He's on his way to Same-Day Surgery, where a patient who's ready to go home needs to be wheeled to the main entrance to meet his ride. Each time the phone rings the process is repeated.

Of DHMC's 500 volunteers, the patient escort group is the biggest—there are about 80 of them. And soon there will be a need for 50 more, because the completion of the Project for Progress expansion will add 467,000 square feet of new space and four new entrances to staff.

The volunteers are eager for the challenge. "We work hard and we have a good time," says volunteer Philip Garran, who loves all the walking the role entails. He wears a pedometer and says that he walks between 3.5 and 4.5 miles during a typical shift. The phone rings yet again and he's off to meet another patient.

While the members of the escort team enjoy working with each other and getting a lot of exercise, what they find most satisfying is serving patients.

"Helping patients deal with their anxieties as they enter the world of the mega-medical center has been extremely rewarding," says Leon Mann, M.D., a retired

physician who signed on as a patient escort soon after moving to the Upper Valley last year. A 1957 graduate of Dartmouth College, Mann was chair of ob-gyn at Case Western Reserve School of Medicine in Cleveland.

"The volunteer escort service is especially important [to patients], because the hospital is horizontally integrated—there's a lot of walking," says Frederick Appleton, M.D., a retired DHMC nephrologist who enjoys seeing former colleagues, and even former patients, during his weekly shift as an escort.

Some volunteers come from the ranks of former patients. John Weeks, a retired 1944 Dartmouth graduate who lives at the Kendal retirement community, is familiar with the facility since he's been a patient himself at DHMC.

**Criterion:** But being familiar with the Medical Center is not a criterion for the job. New escorts get plenty of training before they start. And neophytes also get paired with seasoned volunteers, like Rita Post, who's been a patient escort since she moved to the Upper Valley from Connecticut five or six years ago. Post is also a DHMC employee—a patient and family assistant in the surgery waiting room.

The escorts work in groups of three or four, in four-hour shifts. In addition to helping patients get from one place to another, they assist with patient discharges from the inpatient units; deliver medical charts and x-rays; and sometimes even witness legal documents for patients.

Same-Day Surgery is an especially heavy user of the escorts' services. "They are dedicated and hard-working," says Cindy Balduc, R.N., who manages the unit. "They're invaluable."

The patient escort service "is the volunteer placement where you learn the most about the Medical Center," explains Andrea Henry, the director of volunteer services. She invites anyone who's interested in becoming a DHMC volunteer to call 603/650-7056 or to e-mail her at Volunteer.Services@Hitchcock.org.

Laura Stephenson Carter

## DHMC shows its mettle in nursing with Magnet status

The work is easy to measure: Two and a half years of preparation. Four committees. A 3,000-page report.

But the effect of DHMC's recent designation by the American Nurses Credentialing Center (ANCC) as a "Magnet" institution is more difficult to quantify—though very definite. "The prime benefit," says Nancy Formella, M.S., R.N., senior nurse executive at DHMC, "is the pride and the acknowledgment that nurses can feel. . . . It's immeasurable."

**Excellence:** To earn Magnet status, which is the highest award the ANCC bestows, health-care organizations must meet standards of excellence in nursing practice, research, and nurse education. The standards cover data systems; interdisciplinary collaboration; ethics; nursing management; and the integration of research into the delivery of nursing care, to name a few examples.

More than 6,000 health-care organizations in the U.S. are eligible for the award; DHMC was the 95th to receive it.

Applying for Magnet status meant preparing a 3,000-page report documenting 95 areas of nursing. Formella appointed an interdisciplinary Magnet Steering Committee, cochaired by Marsha Day-Donahue, B.S.N., R.N., a nurse in the Critical Care Unit; and June Stacey, B.S.N., R.N., a charge nurse in



MARK AUSTIN WASHBURN



the ER. The 95 areas were divided into four themes: research, education, practice, and leadership, and a workgroup was assigned to each theme.

Each workgroup then wrote narratives on how DHMC met specific standards, attaching examples of research, policies, and programs—for example, a study on sedation in the Pediatric Intensive Care Unit, a description of programs on cultural sensitivity, and an outline of clinical-practice training for nurses in age-related care.

The leadership workgroup's task was to document how nursing is involved at the highest levels across all departments, and, given the nationwide nursing shortage, how nursing management is involved in staffing and resource allocation.

**Site visit:** After the written application was done, the process culminated with a two-day site visit by two ANCC reviewers. They visited all units where nursing is practiced and conducted impromptu interviews with line nursing staff. The reviewers also led an interdisciplinary forum of physicians and of pharmacy, therapy, dietary, and

laboratory staff, asking attendees to describe how they interact with nurses. "They were absolutely blown away by our interdisciplinary way of practicing," says Formella. "By the time we got to the end, the reviewers said, 'I don't think we've ever heard people talk about their relationship like this, as different disciplines who work together . . . it's phenomenal.'"

Attaining Magnet status "validates the wonderful work that goes on here every day, and our commitment to our patients and nurses," says June Stacey.

**Rates:** Research has shown that Magnet facilities have better recruitment and retention rates for nurses and physicians and, as a result, better patient outcomes. "We have new people, and especially nurses graduating from nursing programs, asking us if we have Magnet status. . . . It's very widely talked about in nursing schools as the place to look for employment, because you know that that organization's going to be committed to this gold standard," says Formella. She adds that it even helps in physician recruitment, since "doctors depend on nurses to help take care of their patients, and they know that having Magnet status means that we have an excellent nursing environment."

Magnet status is valid for four years, after which the organization has to apply for a redesignation. "I like an award that recognizes, yet seeks continued validation of, high standards. It will keep us focused," says Marsha Day-Donahue.

MATTHEW C. WIENCKE

## RUN-IN WITH LADY LUCK

When a 64-year-old Henniker, N.H., man collapsed at the end of his driveway after jogging, it was his lucky day. What was lucky is that the first person to come along was DHMC respiratory therapist Rebecca Egner. It was a Saturday and she had her young son with her—in fact, they were returning from an outing for his first birthday—but she had no hesitation about stopping to give aid.

Egner, who is also a paramedic, quickly determined that the man's condition was serious. She started CPR right away and kept it up until the Henniker rescue squad arrived. The man recovered fully and the next month had an internal defibrillator implanted at DHMC.

Even though Egner received a letter of commendation for her actions from the Henniker Selectboard, she doesn't believe she should be singled out for her actions that day. She's glad she came along but says the rescue was a team effort. A.S.



## A DOMESTIC AGENDA

Lots of people support an end to domestic violence. Lawrence Mester, a member of the Dartmouth-Hitchcock Advanced Response Team (DHART) crew, has gone to greater lengths than most people to do so—almost 300 miles, in fact.

In 1999, he flew a DHART mission with a patient who had been stabbed—in front of her three children—by her husband. She recovered and became involved with an organization called Walk to End Domestic Violence (WEDV). This past October, she was scheduled to give the keynote address at the national WEDV Walk/Run at Battery Park in Manhattan. She had had two wishes after the attack: to walk again (she does, with assistance) and to meet the DHART crew that had "saved her life."

So the WEDV organizers planned a surprise for the day of her Battery Park address. They tracked down Mester but didn't say anything to her, and had him flown to New York for the event. After she gave her talk, they brought Mester out to meet her. While she was sharing her story with the crowd, Mester recalls, "there wasn't a dry eye in Battery Park." A.S.



## DHMC volunteers help out after Iran earthquake

"We've seen a lot of property damage and a lot of disruption, but for the human toll—in terms of deaths and injuries—something like that I've never seen before." That's the reaction of Robert Gougelet, M.D., one of three DHMC emergency medicine experts who rushed to Bam, Iran, after a devastating earthquake there killed more than 41,000 people; injured 30,000; and left 75,000 homeless.

**Team:** Gougelet and DHART crew chief John Hinds and paramedic Chip Cooper are members of the Boston-based International Medical Surgical Response Team (IMSuRT)-East. The team was deployed to Iran shortly after the December 26 disaster.

Though they're seasoned disaster volunteers—having helped in the aftermath of hurricanes, typhoons, floods, earthquakes, and even September 11—the

DHMC trio was stunned by the extent of the damage in Bam. "It was almost homogenous—street after street of just piles of bricks and collapsed buildings," recalls Cooper. "Everything was collapsed. The doctors were gone. Their pharmacies were gone. They didn't have any resources other than what the Red Crescent Society, which is their version of the Red Cross, provided to them."

Once in Iran, the team wasted no time in setting up a field hospital—with seven tents, 63 personnel, and thousands of pounds of medical equipment and pharmaceutical supplies that they'd brought with them. Fortunately, they know how to work under difficult conditions and with limited resources.

"You have to be flexible," says Hinds. "You have to work with the things that you have and work around the things that you don't have, plain and simple. Here in the United States we have a lot of disposables. Over there you don't have the disposables. You have to reutilize things. A bucket of water may be used for one patient here in the U.S. It may be used for 30 patients over there—for casting or whatever. You have to think outside the box . . . look beyond what's right in front of you."

So when the volunteers needed cribs for six babies born in the field hospital, they fashioned bassinets out of pistachio boxes. "We lined them with cotton and other padding and used a couple of high-powered spotlights as warmers," says Cooper.

IMSuRT was one of several

disaster relief teams in Bam. "We took care of some of the urgent conditions," says Gougelet. "We did six deliveries. . . . I took care of a gunshot wound. I took care of a little girl with a subdural hematoma. These are things that essentially would occur in the course of a normal day, but they would have had hospitals to take care of [them]."

In addition, he says, "post-traumatic stress was significant. . . . One fellow lost 22 family members, another fellow lost 14 family members."

By the time IMSuRT had finished its 72-hour assignment, the Red Crescent was ready to take over. IMSuRT did leave behind all the equipment and supplies they'd brought along, donating them to the effort.

IMSuRT is a cooperative effort of the National Disaster Medical System and the Department of State. Additional teams are now being established in other regions of the U.S.

**Gratitude:** Gougelet, Hinds, and Cooper were touched by the Iranians' expressions of gratitude. "People are people," says Hinds. "When you have a horrific accident . . . they are no different than anybody else in the world. The Iranian folks, even the military and the police, showed that day in and day out. They were very appreciative."

The IMSuRT team saw over 700 patients during its 72-hour stint. The family of one showed its appreciation in a particularly touching way. "They actually named one of the babies after us," says Cooper. "IMSuRT."

Laura Stephenson Carter

## NCOC facility will bring cancer care to the patients

The northern reaches of Vermont and New Hampshire are scenic, but living there can be less than idyllic—especially for people with cancer. It can mean traveling two to three hours to get to Dartmouth's Norris Cotton Cancer Center in Lebanon, N.H., for treatments.

But the state of Vermont just approved a plan to build a comprehensive oncology center in St. Johnsbury, Vt., an hour and a half north of Lebanon. The North Country Oncology Center (NCOC), scheduled to open in 2005, is the result of a collaboration among eight hospitals, including Dartmouth-Hitchcock.

In his letter approving the project, John Crowley, commissioner of the Vermont agency that oversees health care, applauded the joint effort. "The collaborative approach utilized by DHMC in working through and developing a solution to a needed service . . . is commendable," he wrote.

Construction will begin this summer. The facility will be next to St. Johnsbury's Northeastern Vermont Regional Hospital (NVRH) and is expected to serve 114,000 residents in the two states. Although DHMC has provided outreach oncology services in the area for more than 20 years, patients who need radiation or chemotherapy or who are eligible for clinical trials have had to drive to Lebanon. About 95% of cancer patients in the



Gougelet (left), Cooper (right), and Hinds (second from right) are pictured in Iran with a fellow IMSuRT volunteer.



NCOC area go to DHMC for treatment. Their average travel time is an hour and a half to two hours one way, with many protocols requiring daily treatments for up to six weeks. In some cases, patients have forgone treatment or opted for a more radical treatment rather than take on the physical, emotional, logistical, and financial challenge of daily trips to DHMC.

**Unnerving:** “Some patients are terrified of not being home when they are sick,” explains Deanna Howard, DHMC’s director of regional development and a key player in the collaboration. A native of Colebrook, N.H., and former CEO of Upper Connecticut Valley Hospital in Colebrook, she understands how unnerving it can be for people to travel great distances for cancer care. She drove one of her own relatives—who needed radiation five days a week for six weeks—to the Norris Cotton Cancer Center (NCCC) several times. It was three hours to DHMC and three hours back every day. “It brought home to me how far it was,” says Howard.

With the new center, “people will have enhanced access to NCCC-level care closer to their communities and closer to their homes,” says DHMC Vice President Susan Reeves. She esti-

mates that over 200 patients will receive radiation therapy at the NCOC in its first year.

The new center will be staffed by nurses, receptionists, and pharmacists from NVRH and by two oncologists and one radiologist from Dartmouth. The physicians will also maintain ties with DHMC to stay up on the latest in cancer research and treatments. A few procedures—such as bone marrow transplants, radiosurgery, and brachytherapy—will continue to be available only in Lebanon because of the integration needed with other specialties. However, complex standard protocols and research protocols will be available at the NCOC. It will have one of the most advanced linear accelerators available—Intensity Modulated Radiation Therapy—for radiation treatments.

DHMC will be the legal owner of NCOC and will oversee its operation, but there will be an advisory board of representatives from the participating hospitals. The eight hospitals have also committed to raising part of the estimated \$8.5 million to build and outfit the facility.

“As an NCI [National Cancer Institute]-designated Comprehensive Cancer Center, our goal has always been to deliver that top-notch treatment to our region, as close to the patient’s home as possible,” says Mark Israel, director of the NCCC.

“The North Country Oncology Center opens that same window of hope as when they live near a cancer center like Dartmouth’s,” notes Howard.

LAURA STEPHENSON CARTER

## DHMC is acquiring a growing family of simulated patients

“What you see are hours of boredom punctuated by moments of terror,” says Marc Bertrand, M.D., the director of DHMC’s anesthesiology residency program. He’s explaining to a group of residents the management of rare moments of crisis—such as cardiac arrest and major trauma—that they’ll encounter in emergency rooms and operating suites. Luckily, these trainees will first encounter such emergencies not in real patients but in sophisticated mannequins.

Bertrand’s course on crisis management uses two high-tech simulated patients: an adult and a child. Each is hooked up to a computer console with a myriad of wires. An engineer at the console can control the simulator’s cardiovascular, pulmonary, and neurological systems and replicate a variety of scenarios: from aortic clamping to emergency hypertension to snake bite.

In Bertrand’s day-long crisis-management course, residents work through several advanced cardiac life support (ACLS) scenarios. “They can listen for breath sounds, feel pulses, place IVs, and check the pupils,” says Bertrand, noting that the mannequins’ pupils can be made to dilate or constrict. Trainees also learn how to place a breathing tube while the engineer manipulates the controls to, say, block the airway or simulate a dropped lung. The mannequins can even be hooked up to monitors so res-

idents can check their blood pressure, pulse, heart action, and respiratory gasses.

**Chaos:** Each simulator also has a speaker in its head, so Bertrand or an assistant can “talk” for the “patient”—answering questions or relating symptoms in an eerily lifelike way. “You really are able to reproduce some of the chaos and hectic nature of a real crisis,” says Bertrand.

He and his colleagues are especially interested in teaching anesthesiology residents the behavioral aspects of managing crises. This involves defining a team leader and establishing good team communication. In the OR, for example, the anesthesiologist generally takes the role of team leader, while surgeons focus on specific procedures. This “can be the toughest thing to get the resident staff comfortable with,” says Bertrand. “You want to do the procedural aspects yourself.”

Other departments besides anesthesiology use the mannequins, too. The child simulator



JON GILBERT FOX

**This patient doesn’t appear to be doing well. But not to worry—it’s a plastic simulator, one of several at DHMC.**

is used to teach pediatric sedation and pediatric airway management. And fourth-year medical students use the adult simulator for ACLS training.

Obstetrics has its own specialized simulator for teaching emergency C-section procedures. This mannequin has a birth canal with a motor that actually delivers a baby. These training sessions involve nurses, physicians, and residents from anesthesiology, obstetrics, and neonatology. “Compared to other institutions,” says Bertrand, “this is a far more rich sort of approach to team training . . . more realistic, more reflective of what we encounter in our practice.”

Nursing, which is starting a nurse residency program soon, is about to acquire two new simulators. Nurse residents will be trained in high-risk but low-frequency respiratory and cardiac emergencies. They’ll learn, for example, how to provide oxygen therapy, start an IV, administer medication, and obtain test results if a simulator complains of chest pain. “It gives you the opportunity to create simulation experiences that new nurses might take years to encounter,” says Nancy Formella, M.S., R.N., senior nurse executive at DHMC. Funding for the simulators has come from a variety of sources, including gifts.

**Tools:** “Everyone is involved in building these resources,” explains George Blike, M.D., director of patient safety. “These tools are beneficial—participants learn faster, learn better, and retain it longer.”

MATTHEW C. WIENCKE



Dartmouth M.P.H. student Shazia Siddiqi—second from the right, in the gold sash and tiara—was recently crowned Miss Deaf California.

### Pageant serves as a platform

Shazia Siddiqi is proving by example that being deaf doesn’t need to stand in the way of achieving a dream. A student in Dartmouth’s master’s of public health (M.P.H.) program, she was recently crowned Miss Deaf California. Not that being a pageant contestant was a childhood dream for Siddiqi. Her excitement stems from her plan to use the position to improve health care for the deaf community.

Friends told her about the pageant three years ago. “I wanted to promote healthy habits in the deaf community,” she says. “There is no monetary reward” that goes with the title, Siddiqi adds, “but I get to show others that anything is possible, encourage my platform, and have fun doing it.”

Over winter break in January, Siddiqi participated in a jam-packed, four-day schedule, starting with workshops and rehearsals and ending with the pageant. Though the contestants promenaded in evening gowns, there was no swimsuit competition and the focus was on talent. Siddiqi made a three-minute presentation urging deaf people to take care of their health.

She was “surprised and dazed” when she won the state title. She credits the M.P.H. program with giving her the knowledge and skills to do so. “During the interviews, the judges asked me what I wanted to change at the government level,” says Siddiqi. “I went on and on about improving the health-care system for disabled people and quoted materials from my classes.” In the classroom, she uses sign language interpreters to follow lectures and discussions.

In July, she’ll travel to Kansas City, Mo., to compete for the Miss Deaf America title. If she wins, she’ll go on several speaking tours to promote her platform and serve as a positive role model, especially for deaf children. But while she’s encouraging others to reach their goals, Siddiqi has one of her own: to become an M.D. She’s waiting to hear from several medical schools, including her first choice—Dartmouth. L.J.W.

### Performing artists and medical students find meeting of minds

In the past, if you heard a mention of “culture” at DMS, the conversation was probably about some organism in a petri dish. But the term has taken on new meaning of late. On January 28, 15 medical students and DMS staff members shared lunch and conversation with three members of the California EAR Unit, a group dedicated to the development and performance of new music. It was the third event in a new series called the DMS Arts and Medicine Program.

**Boom:** While the students munched quietly and listened intently, clarinetist Marty Walker, cellist Erika Duke Kirkpatrick, and pianist Vicki Ray played samples of their work on a boom box. Between bites, the students asked and the musicians answered questions about new music and EAR, which was in the area to perform at Dartmouth’s Hopkins Center for the Arts.

“What made you get involved in this type of music?” a student inquired. EAR’s music has been described as “kaleidoscopic” and “eclectic.”

“We became disappointed,” replied Walker, “that so few professional classical and romantic performers actually perform pieces by living composers.”

“We became a kind of living laboratory,” added Ray.

**Take away:** Asked another student, “What do you hope your audiences take away with them when they leave the concert?”



“We hope they feel illuminated,” explained Kirkpatrick. “And we like to bring them together with us in a kind of musical dialogue.”

The time passed quickly, with more questions and provocative answers. The musicians even had a question for the students: “Why do we see so many doctors in community orchestras and other performances?” Ray wondered. Several theories were proposed, though no definitive conclusion was drawn—but the question seemed to spark a bond between askers and answerers. All too soon, the students reluctantly began filtering out the door to their next class.

The Arts and Medicine Program, conceived by DMS Dean Stephen Spielberg, M.D., Ph.D., is designed to introduce (or reintroduce) culture to busy medical students. “We needed to broaden our medical students’ experiences beyond medicine,” explains Sue Ann Hennessy, assistant dean for student affairs. “We have a lot of wonderful cultural



MEGAN JENKINS

Drummer Pete Burrage and guitarist Ian Paquette are two of the five DMS students who make up a rock band that goes by “Lazyeye.”

### There are no laggards in “Lazyeye”

If your mental image of a medical student is of someone holed up in a library carrel, think again. Or, better yet, check in with the members of Lazyeye, a rock “cover” band (meaning they play songs made famous by other bands). Although the typical Dartmouth medical student engages in a variety of volunteer and extracurricular activities, the band’s members say that “we don’t see anybody else that devotes as much time to extracurricular activities as we do.” They practice together up to four times a week.

But the Lazyeyes are no slouches academically: Mike Meuse, Matt Crowley, and Ian Paquette are finishing their fourth year and heading off to residency programs in radiology, internal medicine, and surgery, respectively. Will Nugent is a third-year who is simultaneously pursuing an M.B.A. at Dartmouth’s Tuck School of Business. And drummer Peter Burrage “trumps us all,” according to Paquette—he’s an M.D.-Ph.D. candidate.

Why the name “Lazyeye”? “I wish there was some kind of interesting story behind how we came up with it, but actually we were just looking for a one-word name that sounded catchy, and somehow stumbled on this one,” says Paquette.

The group’s practices, and a full schedule of performances, are a good way to decompress from the rigors of medical school, say the musicians. “The whole thing gives us a good outlet—a little bit of energy to focus on something outside medicine. We think about other things for a little while, and we focus better on medicine when we go back to it,” Paquette explains.

The group, which got together three years ago, performs at nightspots in the area and has also done benefits for local charities, including Headrest and Haven House.

Although they’ve enjoyed the band, and devoted a lot of time to it, the students’ career choices are firm. “Medicine is pretty competitive, but the music industry is even more so,” says Meuse. “We’ll probably all stick to medicine.” M.M.C.

activities that are offered at the College. The unfortunate thing is our students’ schedules are so busy, and their lives are so demanding, . . . that it’s awfully difficult for them to find the time to go and take advantage of these cultural events.

“So,” she says, “we came up with the idea that perhaps if our students couldn’t go there, we could bring the artists to DMS.”

The first event, in September, was a discussion with “word performer” Sekou Sundiata of a poem he’d written about his experience with kidney failure and transplantation. In November, students enjoyed a mini-performance and dessert with the Adaskin String Trio.

Second-year student Stephanie Ajudua has attended two of the three events. “I really enjoyed the opportunity to learn about topics often neglected when studying medicine,” she says. “It’s so nice to take a break and hear about what is going on with the arts.”

**New lens:** Students aren’t the only ones who are benefiting from the program. Says Joseph Clifford, the outreach manager for the Hopkins Center, “I see it as a really great way to develop new audiences, and for artists to think outside the box, too.”

“I think it gives me a new lens to look through in developing residencies,” continues Clifford. “There’s a whole new audience out there that I wasn’t thinking about last year.”

The next event in the series, with a dance troupe, was scheduled for the end of March.

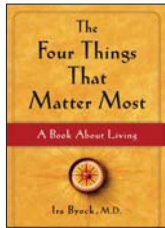
JOYCE F. WAGNER



These California-based musicians recently came to Dartmouth for a concert—and conversation with medical students, as part of a new DMS program.

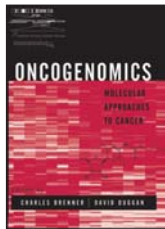
**New on the bookshelf:  
Recent releases by  
DMS faculty authors**

*The Four Things that Matter Most: A Book about Living.* By Ira Byock, M.D., director of palliative medicine at DHMC; Free Press; 2004. This book gives practical wisdom on transforming and healing relationships during times of illness and crisis, as well as in daily life. Drawing on true stories from counselors who work



with the terminally ill, it explores the healing potential of everyday words—words of forgiveness, affection, and gratitude—that can repair rifts, soothe resentments, and restore community and humanity.

*Oncogenomics: Molecular Approaches to Cancer.* Edited by Charles Brenner, Ph.D., associate professor of genetics and biochemistry at DMS; and David Duggan, Ph.D.; Wiley; 2004. This book explores the impact of that genomics has had on cancer



research and care. It covers topics ranging from molecular profiling to cancer pharmacology to clinical trials. Also included is information on array-based diagnostics; pharmacogenomics; and the various ethical, legal, and social issues related to cancer genomics.

MEDIA MENTIONS: DMS

Among the people and programs coming in for prominent media coverage in recent months was DMS's chair of orthopaedic surgery. He was quoted in a *New York Times* feature about the nation's rising incidence of back pain—and of costs to treat it. But, said the article, “studies find little



evidence that patients are better off for all the treatment. . . . While there may appear to be more treatments than ever, Dr. **James Weinstein** adds, ‘more isn't necessarily better.’” On the other hand, an article in *Newsday* focused on an undertreated subset of orthopaedic patients. “We know that of the 70 million Americans who have arthritis and chronic joint pain, 32% are black,’ said Dr. James Weinstein. ‘And yet in every region of this country, black males were far below the norm for having [knee replacement] surgery.’”

“Experts believe they have found a molecular chink in the crippling lung disease known as cystic fibrosis,” reported ABC News. “Infections by *Pseudomonas aeruginosa* are the leading cause of death from cystic fibrosis. . . . Antibiotics often cannot attack the bug because it is cocooned in a sugary ‘biofilm’ in the lungs. Researchers led by **George O’Toole** at Dartmouth Medical School believe they may have found a way into this armor.”

A new protocol aimed at reducing the rate of post-operative complications for diabetic patients undergoing heart surgery was the focus of a feature in the *New York Times*. The protocol involves “a simple change in the way insulin is administered. . . . ‘The paradigm has always been that the danger is in too low a glucose, and that there’s safety in high glucoses,’ said Dr. **William Nugent** of Dartmouth, who led the effort to put the Portland Protocol in place at his hospital last year.”

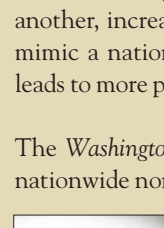


*The Dartmouth Atlas of Health Care* has once again been in the news, most recently related to Florida's effort to grapple with sky-rocketing health-care costs. “The average senior in Miami gets

twice as many Medicare dollars spent on him as the senior in Minneapolis,” reported the *Miami Herald*, “but lives no longer. ‘There’s huge overutilization in Miami,’ says **Megan Cooper**, editor of the *Dartmouth Atlas* studies.”

Health-care utilization was also a hot topic in Maryland—and Dartmouth expertise was again at the forefront. “Debate rages,” was the *Baltimore Sun* headline, “over allowing hospitals to perform heart procedures.” Said the article: “**David Malenka**, a cardiologist at Dartmouth, said he had reviewed national Medicare data covering nearly 350,000 non-emergency angioplasties. Among those done at hospitals without on-site surgical backup, he said, the patient died within 30 days 7.7% of the time—nearly triple the 2.8% mortality rate for angioplasties at hospitals that do heart surgery.”

Another resource-related battle, in the Midwest, made the pages of the *Wall Street Journal*. The article said the big-three automakers had joined forces “to block two Michigan health systems from building two new hospitals in the Detroit suburbs. . . . **Elliot Fisher**, a professor of medicine at Dartmouth, says while the two Michigan health systems are merely transferring beds from one area to another, increased capacity in the suburbs would mimic a national trend in which extra capacity leads to more patients being put in hospital beds.”



The *Washington Post* highlighted a fast-growing nationwide nonprofit program called “Casting for Recovery,” which runs fly-fishing retreats for breast-cancer survivors to help them heal both physically and psychologically. “The vision for the program, now in its eighth year, came from its founder, psychiatrist and reconstructive breast surgeon **Benita Walton** of Dartmouth-Hitchcock Medical Center. An avid fly-fisher, Walton teamed up





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

with fellow enthusiast Gwen Perkins, a member of the Orvis sporting equipment family, to help surgical patients learn the sport—which she believes reduces stress while providing physical benefits.”

A DMS faculty member was a judge again this year in the nation’s foremost high-school science contest—the Siemens Westinghouse Competition. Noted the *New York Times*, “**Victor Ambros**, a professor of genetics at Dartmouth Medical School, said that the



top winners demonstrated that great science could take place in very different settings. ‘The Schneider brothers worked essentially alone,’ he said. ‘And Li worked in the premier lab in the world in his field.

But in both those contexts, the judges were able to see clear evidence of their own creativity and independence.”

A Dartmouth ob-gyn is often quoted on the relative risks of vaginal births and cesarean sections. According to the *Fort-Worth Star-Telegram*, “Dr. **Michele Lauria** of Dartmouth-Hitchcock Medical Center [says], ‘What we do know is that babies born by C-section have a higher incidence of respiratory complications.’” And *USA Today* reported on a new study, by a researcher at Ohio State, demonstrating that “the risk of complications from vaginal births after C-sections—known as VBACs—is actually quite small. . . . Dartmouth ob-gyn Michele Lauria, cofounder of the Vermont-New Hampshire VABC Project, called the new findings ‘firm, indisputable data about the risks. I think it’s wonderful for women.’”



With the FDA considering changes in direct-to-consumer drug ads, a DMS research team that has studied such ads’ effects has been widely quoted. Wrote *BusinessWeek*:

“‘There is a public perception that the benefits of these drugs are large—and that the FDA only allows ads for very effective ones,’ explains Dr. **Lisa Schwartz**, associate professor of medicine at Dartmouth.” And reported the *Washington Post*: “‘The ads are great on side effect info, but short on [information about] benefits—how well the drugs work,’ says **Steven Woloshin**. . . . Woloshin and his wife and research partner, Lisa Schwartz, presented their views at the FDA hearing last fall. According to Woloshin, advertisers often show benefit data only in comparison to a placebo, not to other drugs.”

*Good Housekeeping* carried a notice of Dartmouth research that may lead to a treatment



for retinitis pigmentosa (RP), “an incurable hereditary eye disease [that] results in blindness. . . . ‘We now have a molecular understanding of the abnormal proteins,’ said lead author **John Hwa**. ‘We can move

ahead to the ultimate goal of designing effective drugs to delay the degeneration that occurs to people suffering from RP.’”

A DMS faculty member who coined the term “chemoprevention” was quoted several



times in a long feature on cancer in a recent issue of *Fortune* magazine. According to “**Michael Sporn**, a professor of pharmacology at Dartmouth Medical School, . . . ‘We’ve been stuck with this definition

of what cancer is from 1890. It’s what I was taught in medical school: ‘It’s not cancer until there’s invasion.’ That’s like saying the barn isn’t on fire until there are bright red flames coming out of the roof.’ In fact, cancer begins much earlier than that. And therein lies the best strategy for containing it, believes Sporn, who was recently named an Eminent Scholar by the NCI: Let’s aggressively find those embers that have been

smoldering in many of us for years—and douse them before they become a full-fledged blaze.”

See page 23 in this issue for more about Sporn’s Eminent Scholar appointment.

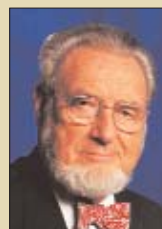
The validity of the dictum that the average person needs to drink eight eight-ounce



glasses of water a day is back in the news. And reporters are turning once again to a definitive report on the subject issued two years ago by a Dartmouth expert. Asked the *Times of London*: “Where on earth

did this idea come from? Dr. **Heinz Valtin** of Dartmouth Medical School tried to find out. In the *American Journal of Physiology*, he concluded that it had no basis at all.” The renewed debate was also fodder for the *Minneapolis Star-Tribune*: “In 10 months of searching the medical literature and talking to specialists in fluids and thirst, Valtin came up dry. He found no scientific basis for drinking eight glasses of water a day.”

In a four-part UPI report on “the state of smoking in America,” one of the nation’s best-known antismoking activists was cited several times. “Surgeon General **C. Everett Koop** decided in 1981 to up the ante in the tobacco war by calling for a smoke-free United States. . . . Yet the battle for the hearts and minds of smokers continues. ‘We are on the cusp of a public health victory or defeat,’ Koop told UPI in a telephone interview from his office at Dartmouth.” He was also quoted about the 1997 tobacco settlement: “‘If the money from the tobacco companies was used for its intended purpose,’ Koop said, ‘we would be able to get half the people who want to quit smoking—who realize they are addicts—to quit.’”



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.

Covering the arts in medicine

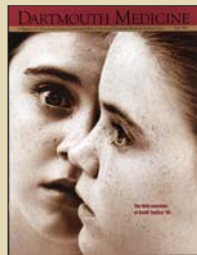
The fact that this issue's cover features a work of photographic art inspired us to see how many times we've put art on our cover. It proved to be a harder number to pin down than one might suspect, since the line between "art" and "illustration" is blurry. But if one considers art a visual statement created to stand on its own, and illustration a visual representation of a statement made in some other form, then arguably this is our eighth such cover (out of a total of 91 issues).

Sometimes we've used an existing work of art—a Surrealist painting by René Magritte, for example, to go with a 1998 feature offering insights from literature into mental illness.

But sometimes—as in this issue—the cover artwork has been the subject of the feature. In 1992, a Dartmouth art historian



wrote about "the transition of the doctor's image in portraiture through the ages—from total humbug to transcendent hero." On the cover of that issue (depicted at left) was Winthrop Chandler's circa 1780 portrait of Dr. William Glysson. In 1996, we featured DMS graduate David Teplica, whose "works of photographic art focus on the human form, while his approach to [plastic] surgery benefits from the eye of an aesthete." That cover (at right) carried Teplica's "The Awakening."



And our Fall 2002 cover (below) featured "Five Surgeons" by Dr. Joe Wilder, a 1942 graduate of Dartmouth College. In his paintings of operating room scenes, Wilder, a retired surgeon who died in July of 2003, offered an unusual window into "a milieu that is at once awesomely technical and profoundly intimate."



Dartmouth is renowned for emphasizing "the art of medicine"—what used to be called "bedside manner." But there's another kind of art of medicine as well.



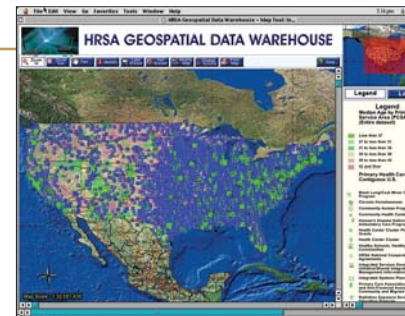
Research group puts primary care resources on the map

A new national database, developed by DMS's Center for the Evaluative Clinical Sciences and Virginia Commonwealth University, is quickly becoming a heavily used tool for improving the delivery of primary care. Called the Primary Care Service Area (PCSA) Project, it is the first comprehensive national database of primary-care physicians—the generalist physicians who are patients' first point of contact with the health-care system.

The project has opened "a new era in primary-care planning," says DMS faculty member David Goodman, M.D., the project's principal investigator. It provides information about primary-care clinicians and populations within small standardized areas called PCSAs.

**Defined:** A PCSA (a term that Goodman and his colleagues pronounce "PIK-suh") is a small, defined geographic area with its own supply of physicians, mid-level providers, rural health centers, community clinics, and hospitals. Each PCSA's population base can be categorized by numerous social and economic indicators—such as race, gender, age, and median household income—as well as by Medicare utilization statistics—such as visit rates for primary care, preventive care, and ob-gyn care.

Health-systems researchers and policy analysts can download data tables containing 1,000



Thousands of data elements can be placed on PCSA maps like this one.

to 2,000 variables on any PCSA.

Members of the public, too, can log on to the database and view maps of PCSAs—zooming in and even adding features such as roads, county boundaries, or rivers. Clicking on a region brings up information tables, so it's possible to compare PCSAs in terms of physician supply. The PCSA database is accessible at <http://datawarehouse.hrsa.gov>.

The federal Health Resources and Service Administration (HRSA) is using the PCSA data in various ways for primary-care planning. For example, the agency is studying how PCSAs can be incorporated into new federal rules for defining health-profession shortage areas as well as medically underserved areas. HRSA plans to publish a proposal for the new rules in 2004.

**Major coup:** "We would quite frankly consider that a major coup," says Goodman, "because the current system of defining health-profession shortage areas doesn't really create a level playing field. States can create areas that appear to have a greater shortage, leaving . . . less aggressive state agencies at a comparative disadvantage."

PCSA's, however, are "a uniform methodology for the whole country—they offer a standard-

ized way of looking at relative shortage or inadequacy.”

HRSA is also using data from the PCSA Project to prioritize shortage areas for a federal initiative to expand community health clinics. With PCSAs, it is possible to see how close, in terms of driving time, an area of low primary-care supply is to an area of ample supply. In addition, HRSA is using PCSAs to study the need for school-based health centers as well as the special needs of homeless and public-housing populations.

States are using PCSA data as well. David Bott, Ph.D., a research associate at Dartmouth's Center for the Evaluative Clinical Sciences and a public investigator with the New Hampshire State Board of Health, is comparing PCSA's Medicare data with state data to better define areas that need improved primary care for poor and elderly populations.

**Impact:** The PCSA Project is also having an impact on children's health. Goodman is working with the American Association of Pediatrics to develop a pediatric PCSA database, including dynamic mapping capabilities and tables (see <http://www.aap.org/mapping/>). It will primarily be used as a child health advocacy tool, says Goodman, but also as a way to better identify areas of low physician supply or to examine population characteristics such as bilingualism or ethnicity.

Finally, he adds, “primary-care physicians seeking jobs—this is a tool for them.”

MATTHEW C. WIENCKE

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

**Lawrence Kaplan**, M.D., an associate professor of pediatrics, is a board member of the Gesell Institute of Human Development.

**Bruce Stanton**, Ph.D., a professor of physiology, has been named chair of the National Institutes of Health Study Section on Cell and Molecular Biology of the Kidney. In addition, he was tapped as cochair of the program committee for the 18th annual North American Cystic Fibrosis Conference.



**Andrew Saykin**, Psy.D., a professor of psychiatry, is a member of the Study Section on the Neural Basis of Psychopathology, Addictions, and Sleep Disorders of the National Institutes of Health Center for Scientific Review. He was also named to the editorial board of the *Journal of Clinical and Experimental Neuropsychology*.



**William Wickner**, M.D., a professor of biochemistry, was appointed to the editorial board of the *Proceedings of the National Academy of Sciences*.

**Diane Kittredge**, M.D., an associate professor of pediatrics, is the new president-elect of the Ambulatory Pediatric Association.

**Diane Kittredge**, M.D., an associate professor of pediatrics, is the new president-elect of the Ambulatory Pediatric Association.

continued on page 63

## ELEVATED TO EMINENCE

Dartmouth pharmacologist Michael Sporn, M.D., just added another “first” to his long list of career accomplishments: he was named the first Eminent Scholar of the National Cancer Institute (NCI) Center for Cancer Research. The Eminent Scholar program was established as part of what NCI officials are calling a “reengineering” of their intramural research program—an effort to develop cross-organizational relationships to enrich the work conducted by NCI staff scientists. The program is intended to foster a better flow of ideas between NCI-based scientists and university-based scientists who do research that’s funded by grants from the NCI.

Sporn came to Dartmouth in 1995 following a 35-year career at the National Institutes of Health. Known for coining the term “chemoprevention”—the idea of using vitamins, drugs, and other agents to stop cancer before it starts—he holds DMS’s Oscar M. Cohn ’34 Chair of Pharmacology and Toxicology.

A year ago, Sporn was selected as the first recipient of the Excellence in Cancer Prevention Award, which was established jointly by the American Association for Cancer Research and the Cancer Research Foundation of America. His innovative work dates back to the 1970s, when he suggested that there might be ways of combating cancer beyond using cytotoxic drugs once the disease had been diagnosed.



## SPEAKING OF SCHOLARSHIP

Ethan Dmitrovsky, M.D., DMS’s Andrew G. Wallace Professor and the chair of pharmacology and toxicology, delivered Dartmouth College’s 17th annual Presidential Lecture in February. The series offers a chance for a faculty member to share his or her scholarship with the entire Dartmouth community, and the lectures are always very well attended.

Dmitrovsky’s speech was titled “Treating Cancer through Prevention Mechanisms.” He summarized his research on retinoids—vitamin A derivatives that play a role in both preventing and treating cancer. He also mentioned his excitement about the success of several just-concluded DHMC clinical trials, the results of which will be made public soon. He was the fourth DMS faculty member to give the Presidential Lecture since the series’s inauguration in 1987.

In addition, Dmitrovsky was recently elected to membership in the Association of American Physicians—the leading national society for physician-scientists.

