



SMILEY FACE: Dartmouth-Hitchcock's longest-serving volunteer, Kayo Sands, recently "retired" from the DHMC Auxiliary. Over the course of 28 years, the now-88-year-old Sands has totted up 20,343.5 hours of volunteer service—mostly as a smiling, helpful presence at the information desk.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from a memoir by a past superintendent of the Woodsville, N.H., Cottage Hospital:

"One of the most exciting and happy moments [at] the old Cottage Hospital was in 1953 . . . when Avis Smith gave birth to triplets. It was also a very frightening time, as all the bassinets . . . were full, and we had just one small incubator. . . . At that moment the telephone rang. William Wilson, administrator of Mary Hitchcock Hospital . . . informed me that a truck had just left Mary Hitchcock with one large incubator. . . . I was to accept [it], free of charge, as long as it was needed."



1975

Year that DHMC began offering formal Perinatal Transport Conferences as a service to the region

Pharm-Tox chair says his "role . . . is service"

Ethan Dmitrovsky, M.D., has been named chair of the Department of Pharmacology and Toxicology by DMS Dean Wiley Souba, M.D., Sc.D. Dmitrovsky served as chair of the department previously, from 1998 to 2008, when he stepped down upon being named an American Cancer Society Clinical Research Professor—a honor that carries extensive time and travel commitments. In resuming the post, he succeeds Joyce DeLeo, Ph.D., who is now vice president for academic affairs at Emmanuel College in Boston.

Easy: Dmitrovsky, who served as acting dean of DMS in 2002-03, says his appreciation for the School made the decision to resume the chair easy. "Dartmouth has been good to me," he says. "I would like to give back in any small way that I can."

Widely recognized as an expert in translational research, he has worked on basic science—including a study of retinoids as a potential treatment for lung cancer—and on moving discoveries into clinical trials.

He is active in the policy sphere, too, including as associate scientific director of the Samuel Waxman Cancer Research Foundation; chair of the National Cancer Institute Board of Scientific Counselors for Clinical Sciences and Epidemiology; and a Lance Armstrong Foundation advisory board member.

Since his previous term as chair, Dmitrovsky has worked

closely on research with a number of colleagues, which has increased his admiration for DMS. Dartmouth's collegiality, he says, is "distinct, if not unique."

From '98 to '08, Dmitrovsky oversaw a doubling of Pharm-Tox's research funding. His current goals include recruiting new researchers, to advance "basic scientific discoveries with a . . . decisive impact, hopefully, on our understanding of the biology of a disease or even into new ways of treating it."

He admits that this is a challenging time to be involved in biomedical research, but he sees opportunities ahead. His job, he says, is to make sure everyone in the department—faculty, students, and staff—has every opportunity for success. "The role of a chair is service," he says. "It's not more complicated than that. Your goal is to help others."

AMOS ESTY

Dartmouth's collegiality, Dmitrovsky says, is "distinct, if not unique."

Med School welcomes 191 new students to five degree programs

A total of 191 new students matriculated in DMS's five degree programs at the start of the 2011-12 academic year.

Facts: The Med School's five educational offerings are listed in the box on the facing page, along with some statistics about each one's entering class (as well as some facts, both interesting and amusing, about the new students in each program). The box is a so-called tree map, in which each block's size is roughly proportional to the number of students in that program.

The M.D. and M.D.-Ph.D. programs make up the largest cohort, but about the same total number of students are enrolled in the other four programs—about half of those in the M.P.H. and M.S. programs of the Dartmouth Institute for Health Policy and Clinical Practice.

New: One of the five programs is brand new this year: three students are in the inaugural class of a program in quantitative biomedical sciences. An interdisciplinary Ph.D. program, it encompasses work in bioinformatics, biostatistics, and molecular epidemiology. Dr. Jason Moore, a professor of genetics, is the director of the new program.

Members of the DMS faculty are also teaching in a brand new Dartmouth College degree program, in health-care delivery science; for insight into that program's first class, see page 16.

ALAN SMITHEE

MARK WASHBURN



Dmitrovsky has been at DMS since '98.

SNOW JOB: Five students in DMS programs are featured in a video about international grad students at Dartmouth. They mention the strong academics, friendly ambience, lack of traffic, and easy access to the outdoors—as well as the need for snow tires.



For a **WEB EXTRA** with links to the video noted at left, as well as to details about all five programs noted below, see dartmed.dartmouth.edu/w11/we06.



M.D. and M.D.-Ph.D. Programs

There are **94** new students pursuing M.D.'s
14% were 25 or older at the time of application
89 of them are in the the M.D. program . . .
 . . . and **5** of them are in the M.D.-Ph.D. program
52% are women ♀
 They represent **62** undergraduate institutions
13 are graduates of Dartmouth College
 One in three members of the class majored in the social sciences or the humanities
7 captained varsity or club intercollegiate teams
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They represent **7** countries: Bangladesh, Canada, China, Ghana, Japan, Nigeria, and the United States

25 were born outside the U.S.
 There were **5,250** applications this year

The U.S. students are from **26** different states

7 are graduates of the University of California system

2 are graduates of the U.S. Naval Academy

54% are of color and/or from a country other than the U.S.

One served in Ecuador with the Peace Corps



One has performed with Jazz at Lincoln Center

One used to build long-board skateboards

2 were All-America in track and field

16 are EMTs

One sang at President Obama's inauguration, as a member of the Dartmouth College Gospel Choir
 One was in a belly-dance troupe at Penn

One did research at the Salk Institute
2 are twins (but not to each other) and one is a triplet

Languages they speak in addition to English include Arabic, Chinese, French, German, Hebrew, Japanese, Spanish, and Vietnamese
 One worked for a year at CVS as a pharmacy technician

They represent **62** undergraduate institutions

13 are graduates of Dartmouth College

One in three members of the class majored in the social sciences or the humanities

7 captained varsity or club intercollegiate teams

One worked all through college as a Starbucks barista

One was a Fulbright Fellow in Nicaragua

One out of every **5** members of the class has already been published in the scientific literature

One was managing editor of the Columbia student newspaper

9% already hold an advanced degree

One was a Teach for America volunteer



The Dartmouth Institute for Health Policy and Clinical Practice (TDI)

There are **52** new students in TDI's **2** degree programs
40% already hold at least one advanced degree
38 of the new students are pursuing M.P.H.'s . . .
 . . . and **14** are pursuing M.S.'s in outcomes research or health-care improvement
3 have served with AmeriCorps
 One worked for the United Nations Educational, Scientific, and Cultural Organization (UNESCO)



One bakes artisan bread

40% already hold at least one advanced degree



One worked for two years as a college track coach

75% are women ♀

33% are minorities

One wrote an honors thesis on Kant and Aristotle

16 are physicians



44% graduated from college within the past three years



One minored in theater

23% are mid-career health professionals

They're originally from **5** countries: Canada, Japan, Lithuania, Tanzania, and the U.S.



One played on the women's rugby team at Colby College



Molecular and Cellular Biology Program (MCB)

There are **27** new students pursuing Ph.D.'s in four departments
 They represent **6** countries: Bangladesh, China, Croatia, Japan, Taiwan, and the United States
 One was a member of the fencing team at Mount Holyoke
 The MCB departments are Biochemistry, Biological Sciences, Genetics, and Microbiology-Immunology
 There are **64** labs where MCB students can work
 One has done research in psychiatric genetic epidemiology and neurobiology



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There are **64** labs where MCB students can work

One has done research in psychiatric genetic epidemiology and neurobiology



Program in Experimental and Molecular Medicine (PEMM)

There are **15** new students pursuing Ph.D.'s in five broad disciplines
 One has played the piano since age 7
 One studied cardiac shunting in snakes
67% are women ♀
 One is an Academic All-America distance runner
2 were born in Korea



Quantitative Biomedical Sciences Program (QBS)

There are **3** new students They already hold a total of **5** advanced degrees

MEDICARE MANIFESTO: A *Los Angeles Times* op-ed by DMS's Dr. H. Gilbert Welch posed three principles to guide Medicare: don't bankrupt our children, don't waste money on low-yield interventions, and allow time for patients and doctors to talk.



For a **WEB EXTRA** with more about the Wennberg International Collaborative, see dartmed.dartmouth.edu/w11/we04.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from a 1991 history of Mary Hitchcock Hospital:

The 1950s marked “a period of profound change in the hospital’s scale, management, and capabilities. Mary Hitchcock was no longer a small business; in 1950 the hospital’s budget exceeded \$1 million for the first time, and by 1959 it had reached \$3 million [and] the medical staff had grown to 70.”



\$1.2 billion

Operating expenditures for Dartmouth-Hitchcock in fiscal year 2010

119,663

Days of inpatient service at DH-Lebanon in FY10

1.8 million

Outpatient visits at all DH locations in FY10

1,200

DH medical staff today

Dartmouth Atlas approach reveals a Berlin “wall”

More than 20 years after the fall of Communism in Eastern Europe, a wall still runs down the middle of Berlin, Germany. At least, that is, on a new map of the city produced by researchers studying variations in the delivery of health care.

The researchers analyzed flu vaccination rates in Germany and found that, probably due to the compulsory vaccination programs of the Communist era, residents of the former East Germany are still much more likely to get vaccinated than those of the former West Germany. In Berlin, the varying rates closely track where the 12-foot high Berlin Wall once stood.

Map: This map, and the data used to create it, are now readily available online, thanks to the development of a German atlas on variations in the delivery of health care. In September, Dr. Dominik von Stillfried, one of

the creators of the German atlas, presented his team’s findings to a group of researchers with similar interests at a meeting of the Wennberg International Collaborative (WIC).

WIC was established in 2010 by Dr. David Goodman, director of the Center for Health-Policy Research at the Dartmouth Institute for Health Policy and Clinical Practice (TDI), and Dr. Gwyn Bevan, a health economist at the London School of Economics and Political Science. WIC is named for Dr. John Wennberg, director emeritus of TDI and a pioneer in the field of variations research. Its mission is to help establish medical variations research globally.

Atlas: In September, participants from 14 countries attended WIC’s second annual conference, held in London. In addition to the discussion of the German atlas, there were presentations on similar studies in the United Kingdom and New South Wales, Australia, as well as discussions of research on topics ranging from the changing rate of Cesarean sections in Norway to the relationship between hospital spending and health outcomes in Japan.

WIC provides researchers who may be isolated in their own countries with a community of similarly interested scholars. Dr. André Busato, a health-care researcher at the University of Bern in Switzerland, says it’s been very helpful to be part of

WIC. “WIC is highly valued in the local research community,” Busato says. “Results labeled with WIC are taken more seriously by local health-policy and other decision-makers.”

Italy: Dr. Jeremiah Brown, an assistant professor of medicine at DMS, attended the September conference and met with Dr. Sabina Nuti, a researcher in Italy, to discuss an emerging collaboration between Dartmouth

and physicians and researchers in Tuscany. **“We’re learning... that these ideas ... are not specific to the U.S.”**

They plan first to analyze variation in the treatment of heart attacks and eventually to create an atlas of cardiovascular care across Italy.

Goodman and Bevan agree that one important goal for WIC is to enable effective comparisons between countries. “We have to understand differences between countries to make sense of variations,” Bevan says.

The group has already caught the attention of the Organization for Economic Cooperation and Development (OECD), Goodman notes. At the September conference, Valérie Paris, an OECD economist, outlined the group’s interest in health-care delivery research.

Methods: “What we’re learning is that these ideas and methods are not specific to the U.S.,” Goodman says. “Even in countries that would seem to have a very planned and centrally organized national health-care system, there are irrationalities in care reflected in variation in quality and efficiency.”

AMOS ESTY



Bevan, left, and Goodman, right, oversaw the recent meeting in London.



ECONOMIC ENGINE: The Association of American Medical Colleges (AAMC) just released a study showing that federal- and state-supported research contributed almost \$45 billion to the nation's economy in 2009—and that research at AAMC member institutions supports 1 in 500 U.S. jobs.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from the Winter 1991 *Dartmouth Medicine*:

“For a group of second-year students at DMS, ‘Have a HEART’ isn’t a plea for more humanitarianism in medicine but an eminently practical statement: they think everyone should learn CPR. . . . They’ve already had a HEARTening response to their fund-raising appeals: CIBA-Geigy donated a ‘Resusci-Annie,’ a rubber model for teaching CPR.”



12

Number of high-tech manikins able to sweat, bleed, drool, and cry in the current 8,000-square-foot simulation center

20,000

Approximate number of individual encounters logged in the center in 2011

A bit of abracadabra yields better research mice

It takes hard work and intelligence to succeed in science—and a bit of magic doesn’t hurt. A case in point is a resource developed by Dr. James Gorham, a DMS pathologist.

Speed: In 2008, Gorham began offering a genetic analysis service—known as speed congenics—to other researchers involved in DMS’s Immunology Center of Biomedical Research Excellence, a collaboration funded by the National Institutes of Health. The service, called DartMouse, cuts in half the time it takes a scientist to develop mice with a specific genetic profile. Gorham says he and the other members of the DartMouse team call the high-tech machine that makes this possible the Nimbus 2000—a nod to the state-of-the-art flying broomstick in the Harry Potter series.

Gorham says it’s not easy to explain speed congenics to non-scientists, but the basic idea is that it’s a faster way for researchers to combine a strain of mouse that works well for their research with another strain that has a specific genetic trait.

Breed: He compares it to crossing two breeds of dogs. If, hypothetically, the high-pitched bark of a poodle was controlled by a single gene, and if, for some reason, you wanted to produce such a bark in a German shepherd, you could breed a poodle with a shepherd. Then you’d take a pup that looked like a shepherd but had the most high-pitched bark

and, again, breed it with a shepherd. Eventually, you’d get a dog very close genetically to a shepherd but with the gene for a poodle’s bark. Getting there, however, could take a long time. Speed congenics makes the process go much faster by comparing the genomes of the mouse pups from every generation.

For example, Dr. Margaret Crane, an immunologist at DMS, is studying the effects of smoke and vitamin D deficiency on infection, a project relevant to the development of infections in people with chronic lung problems. A strain of mice called FVB is a good model for her work, but she is interested in finding out what happens when a gene called mindin is not functional, because it helps protect against infection.

Crane says that developing a

mouse with the traits she needs would not be possible without speed congenics because of the time and money involved. She calls DartMouse “an incredible asset . . . their turnaround time is really, really good.” Mice are essential to her work, she says, since it can’t be done on human lungs, but “one of our principles is that you should use the least number of mice possible.”

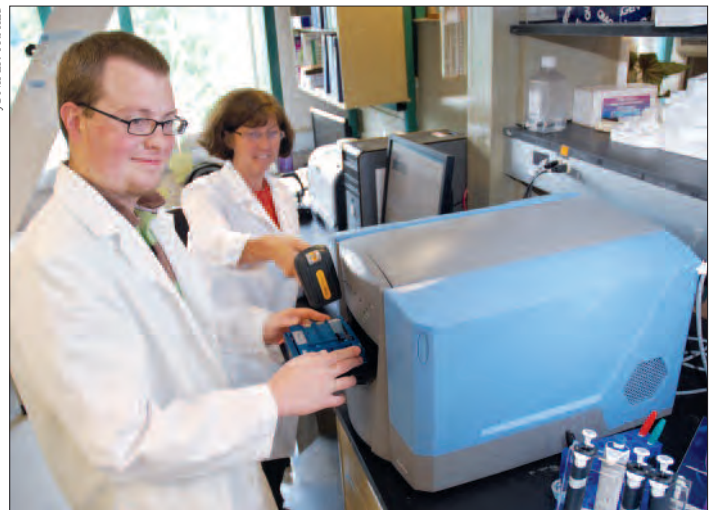
Demand: Researchers at more than 20 institutions outside of Dartmouth now use DartMouse, and Gorham expects demand to keep growing because a year or more of research time can be saved. “That’s a very valuable year for scientists,” he says. “They can begin to test their hypothesis sooner. They can get answers sooner. They can publish more quickly.”

So for Crane and others, DartMouse may be just as magical as a flying broomstick—and a great deal more practical.

AMOS ESTY

The machine’s name is a nod to the flying broomstick in Harry Potter.

JUNIPER TRAILS



Two of Gorham’s colleagues—lab manager Matthew Ranson and lab technician Jane Smith—put the machine that they’ve dubbed Nimbus 2000 through its paces.

DRUG BUST: Associated Press reported that “a national survey of nearly 3,000 adults finds that about 4 in 10 wrongly believe the U.S. Food and Drug Administration approves only ‘extremely effective’ drugs.” The study was done by DMS faculty members Drs. Lisa Schwartz and Steven Woloshin.



Retinal implants: From research to reality

In the back of the eye lie several layers of cells that form the retina and make vision possible. If those cells are damaged or die off, as happens with certain retinal diseases, a person’s vision can fade and ultimately disappear forever. Or at least that used to be the thinking.

Visual: But for the past decade, several biotech companies have been pursuing ways to restore some visual perception for people blinded by degenerative retinal diseases. Dr. Christopher Chapman, a Dartmouth ophthalmologist who specializes in retinal surgery, has been working with one such company, IMI Intelligent Medical Implants, for about two years.

IMI is developing a retinal implant and Chapman is respon-

sible for refining surgical techniques to optimize its safety and longevity. He does that in a specialized surgical lab at DHMC that the company outfitted. So far, he’s implanted the device only in animals. He has little to do with the development of the device, he admits, but he’s fascinated by how it works.

A specialized camera that looks like sunglasses transmits image information to a small box containing a processor.

The processor translates the information into signals that are transmitted to the implant, a film-like material attached to the retina. A microchip in the implant transforms the signals into electrical pulses, which stimulate the remaining retinal cells—those not destroyed by disease. Since those cells can still communicate with the optic nerve, the result is “useful, selective visual perception,” according to the company—although it’s not yet clear how useful.

Trials: IMI has tested its implant in people in Europe but has yet to conduct human trials in the U.S. The firm is hesitant to provide a precise timeline because other companies are developing competing devices.

As for Chapman, he’s thrilled to be doing such research. The techniques he develops for the IMI implant could help ophthalmologists improve other procedures, he says. He “sees” that as good news for everyone.

JENNIFER DURGIN

The processor transmits signals to the implant, a film-like material.

image information to a small box containing a processor.



JON GILBERT FOX

Chapman shows off some of the components of the retinal implant he’s testing.

FACTS & FIGURES

Kids’ stuff



1933

Year the American Board of Pediatrics was established

1937

Year Dartmouth hired its first pediatrician

2

Number of pediatricians on the Dartmouth faculty in 1957

281

Number of pediatricians at all Dartmouth-Hitchcock sites today

80,000

Number of pediatricians in the U.S. today

1992

Year the Children’s Hospital at Dartmouth (CHaD) was designated as a children’s hospital by NACHRI (the National Association of Children’s Hospitals and Related Institutions)

205

Number of children’s hospitals in the U.S. today

6,000

Number of pediatric cases annually in the DHMC Emergency Department (the only Pediatric Level 1 Trauma Center in Northern New England)

10%

Percentage of DMS ’11s who entered a residency in pediatrics

SOURCES: CHILDREN’S HOSPITAL AT DARTMOUTH, DARTMOUTH MEDICAL SCHOOL, AMERICAN ACADEMY OF PEDIATRICS, AMERICAN BOARD OF PEDIATRICS



TIE CLASP: DMS faculty member (and former surgeon general) Dr. C. Everett Koop, celebrated for wearing red bow ties, was feted on his 95th birthday in October at a party attended by DMS faculty and administrators, plus 14 of his former trainees and fellows who traveled to Hanover for the occasion.

2, 4, 6, 8 . . . RAH, TEAM!

Vince Lombardi would surely have been a fan of the High Value Healthcare Collaborative (HVHC). “People who work together will win,” asserted the legendary football coach, “whether it be against complex football defenses or the problems of modern society.” HVHC is all about working together, against one of society’s most intractable problems—health-care delivery. It aims to identify best practices on common and costly conditions, then disseminate them nationally. The group was established last year by six founding members: Dartmouth-Hitchcock, the Mayo Clinic, the Cleveland Clinic, Denver Health, Intermountain Healthcare in Utah, and the Dartmouth Institute for Health Policy and Clinical Practice.

And the HVHC team just got bigger, with the addition of eight new members: Baylor Health Care and Scott & White in Texas, Sutter Health and the

UCLA System in California, Beaumont Health in Michigan, Virginia Mason Medical Center in Washington State, University of Iowa Hospitals, and MaineHealth. The group is currently aiming to beat . . . er, collect data on . . . nine common conditions, including total knee replacement, diabetes, and asthma. For more on the HVHC, see dartmed.dartmouth.edu/sp11/v02. A.S.



DUO TACKLES HEAD TRAUMA

Understanding the effects of head trauma in sports is a bit of a brain-twister, but a Dartmouth duo is busy untangling the puzzle. Since 2006, Drs. Thomas McAllister, a psychiatrist at DMS, and Songbai Ji, at Dartmouth’s Thayer School of Engineering, have been studying data from specialized helmets worn by volunteers on Dartmouth’s football and hockey teams.

The helmets contain sensors, developed by a Lebanon, N.H.-based company called Simbex, that record the force and number of head impacts during practices and games.

The volunteers also agree to have pre- and post-season MRIs of two types—structural and functional; the latter shows brain activity in different areas as the subject undergoes cognitive testing.

In addition, Ji has constructed computer models of the brain that show all its major structures. These are helping the duo to evaluate the extent to which front or side impacts of differing force deform various parts of the brain. The findings so far suggest that the brain’s corpus callosum may be a critical area. And they may one day lead to better helmet designs or even to rule changes aimed at preventing concussions. R.P.S.



New program aims to “make an impact tomorrow”

For too long, U.S. health care has been plagued by a three-headed monster—high cost, variable quality, and unequal access. Nobody seems to know exactly how to kill the monster and achieve high-quality, affordable, accessible care. But a new Dartmouth degree program, for mid-career health-care professionals, is giving those trying to battle the beast.

This past summer, the inaugural class in the master’s of health care delivery science program arrived on campus. The 47 enrollees have an average of 23 years of work experience and come from all sectors of the health-care industry. They include practicing physicians, health-insurance and hospital administrators, government officials, and even a state senator from Oklahoma.

Impact: “We’re looking for people who already are in positions of leadership,” Katy Milligan, the program’s director, told Dartmouth’s student newspaper. “They can make an impact tomorrow with the things they’ve learned today.”

The 18-month program is run by Dartmouth College’s Center for Health Care Delivery Science. It combines the strengths of the Dartmouth Institute for Health Policy and Clinical Practice with those of Dartmouth’s Tuck School of Business. In all, 23 faculty members from DMS and Tuck are teaching the program’s 12 six-week-long courses.

Just five months into the program, students are already seeing an effect. For example, one course exercise consisted of confidential evaluations of the students’ leadership skills by their bosses, coworkers, peers, and clients. For Dr. Mark Moon, a physician at the Mayo Clinic in Jacksonville, Fla., the exercise was transformative.

“I found that I was generally viewed in a positive light by those working for me,” Moon says, “but I tended to emote when frustrated more than I should. Under stressful situations, I now consciously think about how and when I have potentially difficult conversations with employees. Staff [now] describe me as calmer, generally more positive and constructive.”

Moon has seen some very measurable results, too. “There is no question that the staff in any

The Mayo Clinic’s Moon has seen some very measurable results, too.



Eric Isselbacher, associate director of Massachusetts General Hospital’s Heart Center, is one of the inaugural students.

For a **WEB EXTRA** with a video about the Always Events project noted below, see dartmed.dartmouth.edu/w11/we07.



HEARTWARMING NEWS: Dr. Naomi Gauthier, a Dover, N.H.-based pediatric cardiologist with the Children's Hospital at Dartmouth, was one of five finalists, picked from about 100 nominees, to receive an annual award from the Schwartz Center for Compassionate Healthcare.

THEN & NOW

A reminder of the pace of change, and of timeless truths, from the 1935 bulletin describing DMS:

"The mezzanine floor [of Dartmouth College's Baker Library] is reserved for the Medical Library, where some 14,000 volumes have been segregated from the stacks. The current numbers, as well as the bound volumes, of the periodicals devoted to the medical sciences are to be found in the journal room on this floor."



92,341

Number of books in Dartmouth's two biomedical libraries in FY2011

152,331

Number of journal volumes

4,385

Number of electronic journal subscriptions

41,246

Number of other items

Going above and beyond a good bedside manner

Patient-centered care, one of the newer concepts in medicine, is about more than just cultivating a good bedside manner. It is about respecting patients' values, preferences, and needs; providing coordinated, integrated care; communicating clearly; attending to patients' emotional as well as physical needs; involving patients' family members and friends, as appropriate; facilitating continuity of care; and making care accessible to all who need it.

Licia Berry-Berard, M.S.W., the manager of DHMC's Office of Patient- and Family-Centered Care (PFCC), may put it best when she says, simply, "It is how we listen to and embed the patient-family perspective . . . in the work of the organization."

Embed: Created in 2008, the PFCC office has been working to "embed" that perspective in as many parts of the institution as possible. The speed and breadth of that integration has garnered national recognition for DHMC—most recently in the form of two grants from the Picker Institute, a nonprofit dedicated to advancing PFCC.

The first is the Picker Institute-Gold Foundation Graduate Medical Education Challenge Grant. It focuses on training resident physicians in the best ways to share bad news with patients and their families. "Delivering bad news is not routinely taught during medical school and is an important skill," says Jonathan

Huntington, M.D., Ph.D., a DMS '07 who is now a fellow in the DH Leadership Preventive Medicine Residency.

He is one of the principal investigators for the second grant from the Picker Institute—an Always Events Challenge Grant.

This one involves implementing training for front-line nurses to promote and evaluate competency in a list of behaviors that should always happen. These include mundane habits, such as wearing one's name badge, as well as more nuanced behaviors, such as addressing and referring to patients by name (and a name that they prefer), not by their disease.

Central to both grants is a group called patient family advisors (PFAs). These are volunteers who have had experience at DHMC as a patient or a relative of a patient and who are committed to improving care. Today, DHMC has about 130 PFAs who serve on committees; teach nurses, residents, and medical students; and advise leaders on new policies.

Start: PFAs got their start at DHMC in the Children's Hospital at Dartmouth (CHaD). In 1997, a concerned parent and her child's doctor founded the Boyle Community Pediatrics Program, out of which sprang the CHaD Family Advisory Board. A related initiative that also began at CHaD is From the Other Side of the Stethoscope (FOSS), a curriculum for medical stu-

dents. Students learn a series of questions to use with patients who have chronic illnesses; the questions are designed to improve patient interactions and appear to be achieving that goal. "These questions allowed and forced me to slow down," wrote one student of FOSS, and "to think about [patients'] lives outside of the hospital." FOSS has since been implemented on the geriatrics unit as well.

Care: While such initiatives are laudable, patient- and family-centered care is just the right thing to do, according to Berry-Berard and others. "Of course we need to partner with our patients," says Antoinette LaMonica, M.S.W., the recently retired manager of the Boyle Program.

PFCC is "more than just being kind," adds Berry-Berard. It's about "including patients as partners in everything we do."

JENNIFER DURGIN

MARK WASHBURN



Berry-Berard, left, meets here with one of DHMC's patient family advisors.

IS IT BROKE?: “Health-Care Industry, Heal Thyself” was the title of a recent *Wall Street Journal* commentary by Eric Johnson, a professor at Dartmouth’s Tuck School of Business. Safeguarding patient information in today’s digital world is as hard as controlling health-care costs, he posited.



MEDIA MENTIONS: DMS & DHMC IN THE NEWS

Among the people and programs coming in for prominent media coverage in recent months was Dr. **H. Gilbert Welch**, a professor of medicine at DMS. Welch, an expert on cancer screening and patient outcomes,



was quoted by the *New York Times* regarding a study he conducted on mammography. “The presumption often is that anyone who has had cancer detected has survived because of the test, but that’s not true,” Dr. Welch said. “In fact . . . in screen-detected breast and prostate cancer, survivors are more likely to have been overdiagnosed than actually helped by the test.” And the *Huffington Post* noted that “Welch calls overdiagnosis, the process of detecting medical abnormalities that will never harm patients’ health, ‘the biggest problem posed by modern medicine.’”

“Hospitals need to do a far better job keeping patients from ending up back in the hospital soon after they are sent home,” reported the *Boston Globe*. “As the state gets ready to cut payments to 24 Massachusetts hospitals with higher-than-average rates of preventable readmissions, a new study by the Dartmouth Atlas Project concludes that hospitals have made little improvement on the problem since 2005. . . . ‘For a long-standing and well-recognized problem, not much progress has been made,’ said Dr.



David Goodman, the lead author and a Dartmouth professor. . . . Executives at the Massachusetts Hospital Association object to the pay cut, saying hospitals can’t always control when a patient comes back. . . . But the state and

Dartmouth researchers said high readmission rates are often a sign of poor discharge planning and a failure to coordinate patients’ care with primary care doctors.”

“Consumption of even the slightest amount of alcohol could have an impact on gut health,” noted United Press International. “Dr. **Scott Gabbard** and colleagues at Dartmouth-Hitchcock Medical Center and the Mayo Clinic said just one drink per day for women—two for men—could lead to small intestinal bacterial overgrowth and subsequently cause gastrointestinal symptoms such as bloating, gas, abdominal pain, constipation, and diarrhea. . . .



‘These findings are significant because we now know that any bit of alcohol consumption—not just the amount consumed by alcoholics—is a strong predictor of a positive lactulose hydrogen breath testing and small intestinal bacterial overgrowth,’” Gabbard said.

Dr. **Patricia Watson**, an assistant professor of psychiatry at DMS and a senior educational consultant at the DMS-affiliated National Center for Post-Traumatic Stress Disorder, appeared on National Public Radio’s *Talk of the Nation* to discuss the psychological effects of the 9/11 terrorist attacks. “From what we saw after 9/11, providers were actually extraordinarily well-prepared in some ways,” she said. “Because it was a large urban community, you had people who were trauma experts there who were willing to go out and do mass trainings, to teach the most updated techniques on how to treat traumatic stress and loss and traumatic grief. And the national community responded with an outpouring

of support and funding to bring people across the nation together to figure out, you know, how do we do the best to treat people.”

“Tumor formation may require fewer steps to get started than previously thought, according to a new study that shows how chromosome instability (CIN) and DNA damage—two tumorigenesis triggers typically considered independent phenomena—can arise from a single defect,” reported the *Scientist*. “This paper really provides a link between the mechanism behind CIN and the mechanism underlying chromosome damage,” said Dartmouth biochemist **Duane Compton**, Ph.D., who was not involved in the research. Prior to this study, most researchers were not investigating how these two phenomena might be related, he added.”



Odyssey, a science magazine for teens, featured DMS microbiologist **George O’Toole**, Ph.D. “Something slimy is hiding between your teeth, growing on your fish tank, and coating rocks in a nearby pond. . . . But don’t freak out—this ‘slime’ is a part of natural life,” *Odyssey* noted. “George O’Toole . . . is trying to find out more about how these slimy colonies form and how they can be defeated. ‘For reasons we don’t understand very well,’” O’Toole said, “‘when bacteria grow on a surface in a group, they become up to 1,000 times more resistant to antibiotics than . . . when they are living as individual cells.’”



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For a **WEB EXTRA** that includes a brief video of Bartels explaining In SHAPE, see dartmed.dartmouth.edu/w11/we02.



IT WAS GRAND: In a recent performance of Handel's *Messiah*, including the rafter-ringing "Hallelujah Chorus," over a dozen DMS faculty, staff, and students sang with the 100-member Dartmouth Handel Society, the nation's oldest town-gown group devoted to major choral-orchestral works.

In SHAPE: Local pilot becomes national model

The most disadvantaged group in the U.S. in terms of life expectancy is not, as most people might expect, a racial minority. It is people with serious mental illnesses. Due to a host of associated health problems—including high rates of obesity, diabetes, cardiovascular disease, and breathing disorders—Americans with a serious mental illness have a life expectancy 15 to 30 years less than the rest of the population. But a program being studied and refined at Dartmouth now offers them hope for healthier, longer lives.

"This is the biggest health disparity in the U.S., and very few people know about it," says Dr. Stephen Bartels, a geriatric psychiatrist and director of the Dartmouth Centers for Health and Aging. The problem, he explains, "is that mental health is completely separated from regular health care. People [with serious mental illnesses] often don't get good primary care."

Alarming: A few years ago, Bartels became aware of a program that had been developed by Ken Jue, the director of Monadnock Family Services, a mental-health agency in Keene, N.H. Jue had noticed that an alarming number of the agency's patients were dying in their forties and fifties. Diabetes and heart disease, often due to obesity and smoking, were common factors in these early deaths, so Jue started an exercise and fitness program for his patients. He named it In SHAPE, which stands for Individualized Self Health Action Plan for

Empowerment. Bartels was impressed by the program and offered Dartmouth expertise to study and possibly expand it.

In a pilot study of In SHAPE, participants showed a decrease in waist measurements and psychiatric symptoms (such as being withdrawn or apathetic), an increase in time spent exercising, and an improved diet.

In SHAPE works by pairing participants with a personal health mentor, someone who is trained in fitness and nutrition, as well as in "how to motivate people with mental-health challenges," Bartels says. "How do you motivate someone who is depressed and overweight? Who has a serious mental illness like schizophrenia or bipolar disorder? How do you motivate someone who has been smoking and eating bad food for years?"

Participants showed a decrease in waist measurements and psychiatric symptoms.

The health mentors meet with patients weekly, working out with them (a free gym membership is included), showing them how to select and cook healthy food, and referring them to smoking-cessation programs. Health mentor Bethany Hesch says participants set their own goals. At first, most just want to lose weight, she says. Later, as their confidence grows, they set additional goals.

Prove: Bartels soon realized that a randomized trial was needed to really prove In SHAPE's effectiveness, so he secured grants from the National Institute of Mental Health and the Centers for Disease Control to set up and study programs in Concord, N.H., and Boston, Mass. The Concord study is complete, and it showed favorable results for the In SHAPE participants compared to subjects in a control group.

The next step, Bartels decided, was to establish In SHAPE at all of the community mental-health centers in New Hampshire; this required getting Medicaid to support some of the services related to the program. Bartels's plea to the state's commissioner of health and human services wasn't successful at first, but eventually he did get approval to extend In SHAPE throughout the state, as long as the initiative is cost-neutral. A grant from the National Institute of Mental Health is now funding an evaluation of In SHAPE's statewide implementation; the program is currently available in Lebanon, Keene, Concord, and Manchester and soon will be offered in every region.

"There's no other state rolling out a comprehensive wellness program like this," says Bartels. "Every single mental-health center could adopt this."

Vouchers: That's not just wishful thinking. His team recently put together a successful application to the state of New Hampshire for a \$10-million grant from Medicaid. The funds will be used to study the effect of a range of services, including vouchers for In SHAPE and smoking-cessation programs, aimed at improving health and reducing early mortality in people with mental disorders.

"We started with a little pilot study in Keene, and now we're doing a grant across the state to help people not die early due to these terrible health disparities," Bartels says. "We believe it will be a model for the country."

ROSEMARY LUNARDINI

JON GILBERT FOX



In SHAPE trainer Bethany Hesch, right, urges on Tracy Bleyler as she works out on a rowing machine. Bleyler is a participant in the In SHAPE program.