



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.

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.

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.