

INNER CIRCLE: Three Dartmouth professors—including DMS plastic surgeon Dr. Joseph Rosen—participated in the Microsoft Research Faculty Summit in July. The invitation-only event focuses on issues and trends in computing.



THEN & NOW

A reminder of the pace of change, and of timeless truths, from the Fall 1986 issue of this magazine:

“More than 200 bicyclists braved an all-day rain [in] July to raise over \$40,000 for the Norris Cotton Cancer Center in the fifth annual Audrey Prouty Memorial Century Ride. . . . The first ride was held in 1982, when four DHMC nurses fulfilled a promise to a former cancer patient . . . and raised \$2,000 for the Cancer Center.”



On July 8, 2006, the 25th Prouty Ride and Walk—held on a perfect, sunny summer day—smashed the previous 24 years’ records.

2,790

Prouty participants in 2006

123,459

Number of miles they rode or walked

\$1.24 million

Total raised in 2006

Data drives improvement in cardiac surgery

Some people’s eyes glaze over when they look at graphs. Donald Likosky’s light up. Likosky, a Ph.D. who’s a statistician and epidemiologist in Dartmouth’s surgery department, points to a graph with a zigzag blue line that peaks at a red dot. A red dot “indicates to the viewer something is different,” explains Likosky. “Different can be good. Different can be bad.”

A good dot is cause for celebration, while a bad one means “you ought to tweak something,” he says. The dot he’s pointing at shows a rise in the percentage of patients given aspirin within seven days of a coronary artery bypass graft (CABG). That’s good, so no tweaking is needed in this case.

The graph is on a large poster featuring 21 similar graphs, each displaying data on DHMC CABG patients from 2002 through 2006. The graphs chart details such as patients’ median age, rates of post-operative bleeding, and average hospital stays. And this poster is just one of five, each of them focused on a different type of cardiothoracic procedure. Likosky’s team produces them all.

OR: The data provides information both to DHMC’s cardiothoracic surgery section and to the public. The system draws daily from two patient databases: a clinical registry (with information about patients and procedures) and the hospital’s administrative records (with information like the OR schedule). The clinical registry is in a data-

base that’s compatible with independent graphing software, so Likosky and the department’s database manager, John H. Higgins, can design the graphs quickly. That enables them to present current data at monthly meetings of the section’s clinical staff. The latest graphs are then posted prominently on a wall that staff walk by regularly.

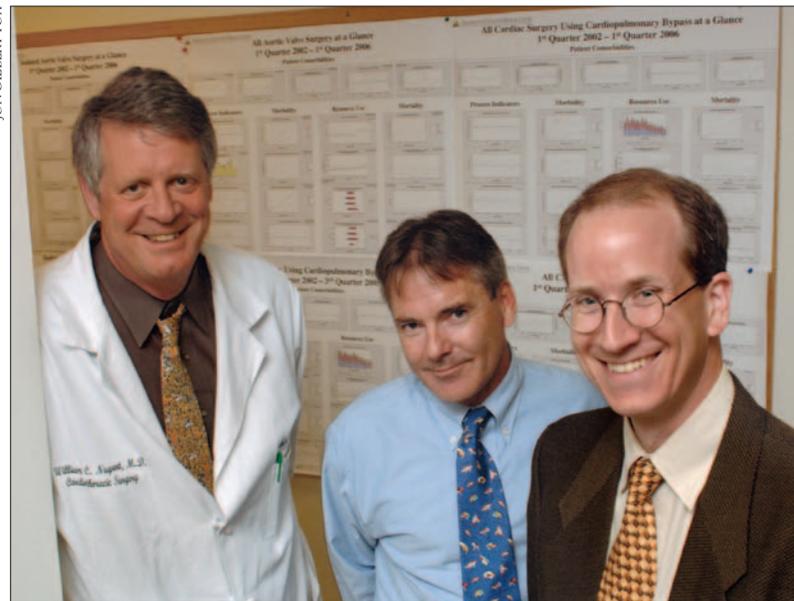
News: “We need to provide information that is relevant and contemporaneous,” says Likosky, “We can’t tell them how they did six months ago, because that’s old news.”

“The nice thing about this kind of data wall,” agrees section chief William Nugent, M.D., is that “when you decide there is a problem . . . you are in a great place to change that.”

In many of the graphs, DHMC’s rates are plotted against regional rates from the Northern New England Cardiovascular Disease Study Group (NNE). The NNE is a voluntary consortium based at DHMC of eight institutions throughout New Hampshire, Maine, and Vermont. Likosky’s team recently published a paper based on NNE data in the journal *Annals of Thoracic Surgery* and expects to soon publish details of the DHMC data project.

The team at DHMC focuses on factors they have the most control over—factors “we can change tomorrow,” says Likosky—and those that have a direct effect on patient care. These include use of aspirin after surgery, intra- and post-operative transfusions, or whether the graft vessel for a CABG is taken from the

JON GILBERT FOX



Donald Likosky, right, gets a gleam in his eye when he talks about the graphs that his team produces. At left is surgeon Bill Nugent, and in the center is database manager John Higgins. Some of the graphs Likosky produces are on the wall behind them.

internal mammary artery (IMA) or from a vein in the leg. The graphs chart mortality associated with various factors; both DHMC's and NNE's mortality rates compare favorably to national norms.

And even though DHMC's patients are older and sicker than they used to be, "I'm happy to say that we have not seen a bump in mortality," notes Nugent.

In addition to being shared with the section, the data is also used for DHMC's quality reports website, where mortality rates, infection rates, patient satisfaction, and other such measures are reported to the public (to see these reports, go to <http://www.dhmc.org/> and click on the "Quality Reports" link).

Public: Why the need to generate all this data and make it public? One reason, says Likosky, is that insurance companies, accreditation organizations, and other stakeholders want to know a hospital's clinical outcomes. And it "holds us . . . accountable to our patients."

In addition, he says, "I think it holds us accountable internally [when] we don't measure up the way we want to."

Staff do take the data seriously. The information Likosky marshals has shown, for example, that IMA grafts have lower mortality than leg vein grafts. "Less guesswork. Less art," says Nugent of how he now decides which kind of graft to use.

"It doesn't mean you can't impart your own stamp," he explains. It just means doing so based on the data.

MATTHEW C. WIENCKE

CLINICAL OBSERVATION

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

Douglas Goodwin, M.D.
Associate Professor of Radiology and of Orthopaedic Surgery

Goodwin is director of musculoskeletal radiology at DHMC. He specializes in magnetic resonance (MR) imaging of articular, or joint-related, cartilage, bone mineral analysis, and foot and ankle imaging. He's been on the DMS faculty since 1994.

What are your clinical interests?

I am particularly fascinated by osteoarthritis. In other words, I look at images of bones and joints and see how we all fall apart as we age.

What has changed in your field over the past 10 years?

In musculoskeletal MR imaging, the biggest advance has been improved spatial resolution. We are now able to image structures we couldn't see 10 years ago. I find myself constantly relearning anatomy, with emphasis on smaller and smaller structures. Trying to determine the clinical relevance of injuries to some of these smaller structures is a challenge. For example, I frequently see small injuries of articular cartilage, yet in most cases I am not sure if the lesion is associated with pain and disability or if it is likely to get worse with time. We simply haven't been able to study joint degeneration this way long enough to understand the natural history.



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

Probably most of the people I admire weren't much fun to be around. Who wants to watch Lincoln brooding in the Oval Office? If I had only a day, I'd want to be with someone who was not only creative and intelligent but also enter-

taining. Mark Twain or Buster Keaton would be a couple good choices, I think.

What's your favorite non-work activity?

Watching television. I just got cable so I could watch the World Cup soccer games. It's been so long since I've seen anything but PBS that it's like a brand new world. I feel as though I'm taking a crash course in popular culture. But a lot of it is just ridiculous, so I'll probably get rid of it again in another month or two.

What's the last movie you saw?

Werner Herzog's documentary *Grizzly Man*. I like documentaries because they are less constrained by what fits in the story. Herzog is outstanding in presenting this story of a complex and troubled man. I admired his restraint, compassion, and ability to avoid the sentimental. He allows the subject to tell his own story while giving the viewer a necessary broader perspective.

What about you would surprise people who know you?

I bought a cell phone this year. Half of the people who hear this are surprised that I didn't have one before, and the other half are surprised that I finally broke down and got one.

What advice would you offer someone entering your field?

I frequently remind medical students that evaluation of the patient begins with the history and physical examination. Nothing else, including diagnostic imaging, is nearly as important. And for a radiologist, I think it is crucial to recognize that the technology will change quickly. Therefore, it is imperative to know the basic anatomy, physiology, pathology, and physics.

Have you mellowed with age?

What is the opposite of mellowed? I think I have done some of that.

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

Only waste it—so instead, I would rather give it to my colleague Yvonne Cheung. She would make better use of the time (and would probably give me some cookies in exchange!).

