1956
John Wennberg receives his bachelor’s degree from Stanford.
In 1973, when John Wennberg published his first journal article on unwarranted variations in the delivery of health care, he was largely ignored. But over the past 40 years, Wennberg—the founder of the Dartmouth Atlas Project and the Peggy Y. Thomson Professor Emeritus in the Evaluative Clinical Sciences at Geisel—has helped to change the way physicians and patients approach medical decision-making and shaped efforts to reform the nation’s health-care system.

Billboards still advertise the latest in medical technology, and emergency rooms still bustle with harried nurses and doctors. But below the surface of the nation’s health-care system, tectonic shifts in how care is organized and paid for are causing a level of turmoil and anxiety that has not been seen in health care since the rise and fall of managed care in the 1990s.

Both clinicians and administrators are worried as a result of the implementation of the Affordable Care Act of 2010. Doctors are justifiably concerned about everything from their incomes to a changing job market. Hospital administrators are being forced to improve the safety of their institutions, trim waste and cut costs, and ensure that patients are not subjected to unwanted surgeries and tests and unneeded days in a hospital bed.

One of the instigators of all these changes is Dartmouth’s John Wennberg, the founder and director emeritus of the Dartmouth Institute for Health Policy and Clinical Practice (TDI) at Geisel. Over the past four decades, Wennberg and his colleagues at Dartmouth and other institutions have conducted pioneering research that has reshaped the way policymakers and legislators view the health-care landscape. Dartmouth researchers have shown that far from having the “best health care in the world,” as some politicians have claimed, and as many Americans may still believe, the nation is plagued by wide variability in both cost and quality. What’s more, a great deal of care delivered in the U.S. is not only unnecessary but also potentially harmful to patients.
The changing understanding of health care caused by this research has led directly to health-care reform legislation at both the federal and state level. The Accountable Care Act is one example. As another, a Vermont law passed in 2011 put the state on a path toward a single-payer system that would incorporate ideas for improving care that have their roots in Dartmouth research. Ron Suskind, a Pulitzer Prize–winning journalist, calls Wennberg “a modern-day Copernicus” for his paradigm-changing insights into the nature of the health-care system. And just as Copernicus faced resistance, Wennberg and his colleagues have found that the implications of their findings are not always welcomed by providers of health care. Still, over the 40 years since his earliest studies were published, Wennberg’s research has affected a remarkably wide array of policy issues, from health-care financing to the relationship between doctors and patients, and his work will continue to have an impact on health-care reform for years to come.

I FIRST MET JACK, AS WENNBERG IS KNOWN to friends and colleagues, in 2002, when he and his team were still housed in since-razed Strasenburgh Hall, a cinder-block dormitory on the campus of Dartmouth’s medical school that had been converted to cramped, makeshift offices, with narrow hallways and office supplies stored in showers. I was on assignment from The Atlantic to write a story about overtreatment. The inspiration was an article I’d read in the New York Times about the Dartmouth Atlas, the analysis of Medicare data that Jack and his colleagues have been producing since the demise of the Clinton health-care plan, in the mid-1990s. The Times article, which was titled, “More may not mean better in health care, studies suggest,” was one of only a handful of stories in the popular press I had come across that reinforced my own growing sense that a great deal of medical practice in the U.S. was useless—or worse, actually harming patients.

Over the course of two days at Dartmouth, Jack and his colleagues laid out the content of their work—leaving me to sort out its revolutionary implications. Elliott Fisher, David Goodman, and H. Gilbert Welch, all physicians, showed me data suggesting that in regions of the country and at individual hospitals that delivered the most medical services—as measured by days in the hospital, tests, procedures, and visits from multiple specialists—patients did not, on average, live longer. It also did not appear that regions whose patients were the sickest on average—and therefore potentially most in need of more treatment—were the ones where the most care was delivered. Jack and the others went on to show me that many patients

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were unwittingly getting elective surgeries (including cardiac bypass, mastectomy, and prostate surgery) that could cause side effects that patients did not know about or fully understand, raising the question of whether they would have wanted the surgeries had the pros and cons been explained to them in a way they could grasp. At the time Jack said, “There is a certain level of care that helps you live as long and as well as possible. Then there’s excess care, which not only doesn’t help you live longer but may shorten your life or make it worse. Many Americans are getting excess care.”

The idea that more health care is not necessarily better for your health has begun to seep into the public consciousness, but at the time this was a deeply heretical idea. It meant that at least part of our well-known cost problem in American medicine was due not just to high prices, but also to enormous and ubiquitous waste in the system. Jack and his colleagues told me they thought that as much as 30 percent of what we spend on health care was going toward care patients neither needed nor wanted. If that was not shocking enough, Jack and Dartmouth economist Jonathan Skinner laid out for me the upside-down nature of medical markets that was helping to drive all that waste.

Using Medicare data for millions of patients, they had found convincing evidence that one of the most powerful factors in how much medical care patients received was not how sick the population was—the prevalence of heart disease, for example, or the rate of smoking or cancer. Rather, the amount of care patients received was in large measure a function of the supply of medical resources available in the region in which they lived. The more hospital beds in a region, the more days in the hospital the people living in that region spent, on average. The more cardiologists there were, the more visits people had with a cardiologist. Imagine if the number of cars you bought was determined by the number of car dealerships in town, or as Jack liked to put it, if the number of Big Macs you ate was a function of the number of McDonald’s franchises in your neighborhood.

He came to this seemingly counterintuitive conclusion early in his career, when he was a young researcher in the late 1960s looking at patterns of medical treatment delivered in Vermont. Jack had a grant from the National Institutes of Health to make sure that the citizens of the state had access to the very latest in medical technology, a program launched as part of President Lyndon Johnson’s “Great Society.” He decided to examine what kind of care Vermonters were already getting as the first step to finding out what they might need. That’s when the data started to speak to him.
Vermont was (and still is) a remarkably homogeneous state, in which one town is much like another in terms of race (white), economic status (middle class), age, and education. Yet as Jack and his colleague, epidemiologist Alan Gittelsohn, would soon discover, the amounts and kinds of medical treatment each town's residents received differed enormously. For example, they found that 60 percent of the children in Stowe had their tonsils out by the age of 15, while only 20 percent of the children in nearby Waterbury lost theirs. The chances a woman would undergo a hysterectomy varied fourfold from place to place, and patients in the hospital in Randolph were twice as likely to be there for a digestive disease compared with hospital patients in Middlebury and three times more often for a respiratory illness.

Jack and Gittelsohn searched in vain for a medical reason for this variation. They could find no earthly explanation for why kids in one town would be three times more likely to need a tonsillectomy compared with the children in another town. In the end, the researchers had to conclude that much of the variation was “unwarranted,” because it could not be attributed to differences in what patients needed medically, or even to what patients wanted. What was strongly linked to the variation was the number of beds and physicians per capita and the varying opinions of doctors in different communities about everything from how to diagnose diseases to the value of one procedure versus another to treat a given condition.

Before He Went to Vermont, Jack, like most of us, had always assumed that medicine was rational—that it was based on proven treatments. He also assumed that the march of medical science offered patients an endless stream of new and improved treatments that provided a better shot at a cure or a more comfortable life. But when he looked at what was being done to Vermonters, he knew that his assumptions had to be wrong. “The whole thing was surprising,” he told me in 2003. “There was variation everywhere.” That meant that doctors could not be using sound science for many of their decisions, because their decisions would have to have been more consistent from place to place and patient to patient.
Maybe not so surprising was the reception his findings received from the medical establishment. Not a single medical journal would publish the paper that resulted from the work in Vermont; it eventually saw print in Science magazine in 1973.

In time, that paper would be considered a landmark piece of research, but it was another decade before Jack’s work began having an impact on policymaking. In the mid-1980s, he set out to convince key legislators that the federal government needed to invest in “outcomes” research, which could help doctors, patients, and payers know what really works in medicine, and for which patients. He also argued that rising Medicare costs were linked to the failure of government to invest in such research. He began collaborating with U.S. Senators George Mitchell, a Democrat from Maine, and David Durenberger, a Republican from Minnesota, as well as with Willis Gradison, Jr., a Republican Representative from Ohio, to craft legislation for a new federal agency, the Agency for Health Care Policy and Research. (The original name was the Agency for Health Care Research and Policy, until a sharp-eyed legislative aide realized that the acronym would be AHCRAP.) Jack testified at nearly every relevant hearing, and he suggested that the agency adopt a research model he and colleagues had developed, called Patient Outcomes Research Teams, or PORTs. A PORT was composed of a multidisciplinary team of researchers and doctors, who sorted through conflicting scientific data that existed for many common treatments and tests. For a large number of medical treatments, there were hardly any scientific studies at all. Doctors were doing surgery, giving drugs, and recommending tests on the basis of theory, tradition, and (sometimes faulty) assumptions about how the body works.

But the PORTs had one other mission that was unusual at the time: they asked patients how they felt about their symptoms and the side effects of different treatments. The hope was the new federal agency would use the PORTs’ findings to issue guidelines that could help doctors give patients the treatments they really needed—and refrain from giving them unnecessary, useless care that could only cause them harm.

It would turn out this was an idea whose time had not yet come. In 1994, one of the agency’s PORTs issued a preliminary report on treatments for low back pain. Finding little solid evidence that would indicate when surgery for back pain is warranted, the team recommended that doctors and patients try nonsurgical interventions first. Sensing a threat to their livelihood, a group of back surgeons swung into action. They correctly perceived that once the AHCPR’s guidelines on back pain were published, Medicare might limit reimbursement for various back surgeries, or stop paying for it altogether. Surgeons flooded Congress with letters claiming that the agency’s panel

1987
The Patient Outcomes Research Team program is established, modeled on Wennberg’s work in Maine on establishing patient choice.

1988
Wennberg is named the founding director of the Center for the Evaluative Clinical Sciences at Dartmouth (now called the Dartmouth Institute for Health Policy and Clinical Practice).

1994
Wennberg is appointed the Peggy Y. Thomson Chair for the Evaluative Clinical Sciences.

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was biased. A company that manufactures pedicle screws (devices that are often used during certain types of back surgery) sought a court injunction to prevent publication of the guidelines, and the North American Spine Society, the main professional group for back surgeons, launched an assault on the PORT’s methodology, charging that the agency wasted taxpayer dollars.

Such arguments resonated with then-Speaker of the House Newt Gingrich and the newly elected Republican majority. The agency’s name appeared on a House Budget Committee “hit list” of 140 federal programs targeted for elimination. After the House voted twice to zero out AHCPR’s budget, the agency was brought back to life by a handful of Senate Republicans, including Tennessee’s Bill Frist (a physician himself), but it suffered a 21 percent budget cut and was barred from offering Medicare explicit guidance on which tests, treatments, and procedures to cover. The word “policy,” which smacked of the recently failed Clinton health-care reform effort, was expunged from its name, and the AHCPR became the much-chastened Agency for Healthcare Research and Quality (AHRQ).

When the back panel’s guidelines were published in 1995, they were roundly ignored by many back surgeons. But the idea that medical treatments should be tested to make sure they actually work lived on. In 2009, initially funded by the American Recovery and Reinvestment Act, the Patient Centered Outcomes Research Institute, or PCORI, was charged with doing precisely the kind of research—comparing one treatment to another in light of how patients experience them—that the AHCPR had to abandon. And PCORI owes its existence and its focus on “patient-oriented outcomes” to policies whose origins can be traced directly to Jack Wennberg’s door.

**TODAY, THE IMPACT OF THE RESEARCH** Jack launched continues to grow. The Affordable Care Act, or Obamacare as it’s widely known, is replete with provisions that are rooted in Dartmouth findings. For example, the act includes a large section intended to encourage physicians to do a better job of helping their patients understand their treatment choices. This process, called “shared decision-mak-
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2003
Elliott Fisher, who came to Dartmouth in 1986 in part to work with Wennberg, leads a study that finds that Medicare patients in high-spending regions of the county do not have better outcomes and are not more satisfied with their care than patients in lower-spending regions. The study marks a significant step in the effort to overturn the notion that more care is inherently better.

2010
Wennberg publishes Tracking Medicine: A Researcher’s Quest to Understand Health Care, a book that recounts his career and summarizes his research.

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A LONG-TERM PARTNER

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