
Dartmouth's David Goodman is a leading voice on one side of a vigorous national debate over how many doctors the United States needs.

# The Supply Side of Medicine

By Amos Esty • Photographs by Jon Gilbert Fox

For further insight into Goodman's workforce research, see WEB EXTRA video and audio interviews with him at dartmed.dartmouth.edu/sp09/we02.

**How many doctors does the U.S. need? Many more, say some policy-makers, to address access problems and population trends. Not so, says a Dartmouth researcher, who argues that simply churning out more doctors won't fix the problems and may make them worse. He and others call instead for a more rational payment system and better-organized workforce planning to rectify current imbalances in the physician supply.**

There were days when Dr. David Goodman felt like he was making a real difference in the lives of his patients. It was the mid-1980s, and Goodman was serving as a National Health Service Corps physician in the rural town of Colebrook, N.H. "I was the only pediatrician in the county," he recalls.

But other days, he wondered how much good he was actually doing. "The biggest needs in that community were not medical," Goodman says. "They were mental and dental." Another problem was that the focus of the local health-care system was always on treating the next patient in the waiting room. No one was thinking about how to improve the overall health of the community. For Goodman, the experience raised "these sorts of heretical questions about, well, how much influence do we have as primary-care doctors?"

He began trying to answer those "heretical questions" when he arrived at Dartmouth in 1988. Before long, he was working with Dr. John Wennberg, a pioneering health-outcomes researcher, and other DMS faculty interested in such topics. It was a momentous experience. "I left my first meeting with my eyes wide open," Goodman says. In the 20 years since then, he has studied the association between physician supply and health outcomes as a researcher at the Dartmouth Institute for Health Policy and Clinical Practice (TDI). He's now one of the nation's leading voices calling for a reevaluation of physician workforce policy.

At the moment, U.S. medical schools are in a period of rapid expansion. Last fall, more than 18,000 students began working toward their M.D. degree—the largest first-year class in history. In coming years, class sizes are likely to grow still more as existing schools increase their enrollments further and several new schools open their doors.

This expansion is part of an effort to avoid what some believe could be a health-care catastrophe. According to the Association of American Medical Colleges (AAMC), by 2025 the country could face a shortfall of more than 100,000 physicians. The organization points out that 30 million Americans live in areas that have been designated by the federal government as medically underserved, and that state agencies and academic researchers in more than 20 states have issued recent reports detailing local physician shortages. If nothing is done about the supply of physicians, the AAMC argues, the nation's health will be at risk.

David Goodman doesn't buy the AAMC's reasoning. He agrees that there are widespread problems with health-care delivery, but he contends that increasing the number of doctors will actually make things worse. "While what doctors do is very important, the number of

*Amos Esty joined the* Dartmouth Medicine *staff as a senior writer last May and was recently named managing editor. He was previously an assistant editor at* American Scientist *magazine.*

## TRENDS IN THE U.S. POPULATION AND THE PHYSICIAN WORKFORCE FROM 1980 TO 2000

| | 1980 | 1990 | 2000 | Increase 1980-2000 |
|---|---|---|---|---|
| Population of the United States | 226,545,805 | 248,709,873 | 281,421,906 | 24.2% |
| Total Active Physicians + | 459,555 | 593,692 | 779,723 | 69.6% |
| Active Allopathic Physicians (M.D.'s) * | 379,893 | 470,688 | 642,877 | 69.2% |
| Active Osteopathic Physicians (D.O.'s) * | 17,620 | 30,924 | 41,121 | 133.4% |
| Residents and Fellows | 62,042 | 92,080 | 95,725 | 54.3% |
| Allopathic Medical School Graduates | 15,113 | 15,398 | 15,674 | 3.7% |
| Osteopathic Medical School Graduates | 1,059 | 1,529 | 2,279 | 98.0% |
| International Medical Graduates in Residency or Fellowship | 11,424 | 13,496 | 22,419 | 96.2% |

+ Including residents and fellows * Not including residents and fellows

SOURCES: U.S. CENSUS BUREAU AND SALSBERG AND FORTE, "TRENDS IN THE PHYSICIAN WORKFORCE, 1980-2000," *HEALTH AFFAIRS* 21, NO. 5 (2002): 165-173

**This chart shows that the total number of active physicians in the United States grew at over two and a half times the rate of the population between 1980 and 2000, with the greatest percentage growth coming from osteopathic schools and medical schools outside the U.S. Dartmouth physician workforce researcher David Goodman believes that simply asking the nation's medical schools to turn out still more doctors won't bring about the reform that everyone agrees the health-care system needs.**

**The physician workforce debate has grown increasingly heated. "People have called it trench warfare," says Jonathan Weiner of Johns Hopkins. He believes, like Dartmouth's Goodman, that "many Americans are getting too much health care."**

doctors that are doing it doesn't make that much of a difference," he says. He even argues that the push to expand the physician workforce isn't about improving health care—it's largely about the money academic medical centers could stand to make if federal funding for physician training is raised.

The debate has grown increasingly heated. "People have called it trench warfare," says Dr. Jonathan Weiner, a professor of health policy and management at Johns Hopkins. And despite being waged at conferences and in medical journals, this is not just an academic dispute. Whatever their differences, everyone agrees that the decisions made today will have profound consequences for the future of the nation's health-care system.

In 1984, when Goodman arrived in tiny Colebrook, N.H., the physician workforce was in the midst of two seemingly contradictory trends: the number of M.D. graduates of U.S. medical schools was stagnating, but the overall physician workforce was increasing rapidly. Between 1980 and 2000, the annual number of graduates from U.S. allopathic medical schools (those that grant the M.D. degree) grew only slightly, from 15,113 to 15,674—an increase of less than 4% during a period when the nation's population grew by almost 25%. But under changes to Medicare passed in 1983, the federal government began providing additional funding to hospitals to train residents, giving teaching hospitals an incentive to create more residency positions. With the number of M.D.'s leveling off, hospitals increasingly turned to two other sources of doctors: graduates of osteopathic medical schools (those that grant the D.O. degree) and of medical schools in other countries. As a result, the total number of practicing physicians grew by almost 70% between 1980 and 2000, to more than three-quarters of a million.

By the mid-1990s, there was widespread concern that the turn of the century would bring a surplus of physicians. The Council on Graduate Medical Education (COGME), which was created by Congress in 1986 to provide advice on the training of doctors, declared in 1997 that "the United States faces an overabundance of physicians that will extend well into the next century." The organization examined the services doctors provided and used that data to project the future need for physicians. COGME concluded that the country would soon have too many doctors in most specialties.

By 2000, however, COGME and the AAMC had begun to reconsider their stances on the workforce. Soon both organizations began to warn that, if nothing changed, the nation would experience a severe shortage of physicians by 2020.



Edward Salsberg, M.P.A., the director of the AAMC's Center for Workforce Studies, explains that this change was the result of several factors. "For 1980, it made sense to slow up what was then a very rapid increase in medical school enrollment," he says. But he argues that as managed care fell out of favor in the 1990s, it was essential to rethink what the country's needs would be in another decade or two. "When you do physician workforce planning, you really need to look 20 years out, because that's how long it takes to have any significant impact on the physician supply," he says.

Over the past few years, Salsberg and the AAMC have published a number of studies detailing the potential extent of the problem. "I personally think, and our data shows, that the shortages are going to be widespread across the full range of specialties," he says. Salsberg explains that the AAMC's conclusions rely on an analysis of demographic trends. "The aging of the U.S. population and the aging of the physician workforce are major factors," he says. For example, by 2020 the country's population is expected to reach about 335 million—an increase of 50 million from 2000. And the number of Americans over the age of 65 is expected to grow to 54 million by 2020—an increase of about 20 million from 2000. Older Americans, Salsberg points out, tend to use more health-care resources than other segments of the population. He also adds that in 2020, baby boomers will just be starting to turn 75.

Another factor in the AAMC's stance is the change in lifestyle choices being made by younger physicians. Salsberg predicts that as new doctors fill the workforce, they will have different expectations about the demands of the job. Dr. David Nierenberg, the senior associate dean for medical education at DMS, agrees. "I believe the AAMC is right that we are going to need more doctors," he says. "Doctors today—and this is probably a healthy thing—no longer want to work 80-hour weeks. They want to work 40- or 50-hour weeks."

In 2005, to address these concerns, the AAMC issued a position statement calling for a 15% increase in medical school enrollment over 2002 levels by 2015; it has revised that position and now calls for a 30% increase to avoid what it predicts could be a shortfall of 124,000 physicians by 2025. COGME likewise called in 2005 for a 15% increase in medical school enrollment.

Goodman argues that the methods used by the AAMC are fundamentally flawed. "The AAMC's projection models are what I would call quantitative slogans," he says. "They're all based on the notion of replicating today's health-care system and labor market into the future at a time when everyone agrees that the last thing that we want is just to simply perpetuate the health-care system."

As the AAMC and COGME began warning of the potential physician shortage, Goodman accumulated evidence pointing to the opposite conclusion. It's not a question of demographics, he says. The issue is "how populations are affected by physician supply and by growth in physician supply." In place of projections, Goodman cites research showing that beyond a certain point, the number of physicians has little to do with quality of care.

In a 2006 study, for example, Goodman examined differences in end-of-life care at 79 academic medical centers and found enormous variation in the amount of care provided to patients during the last six months of life. The amount of physician labor dedicated to each patient at the most-care-intensive hospital—New York University Medical Center—was 4.7 times higher than the amount at the least-care-intensive hospital—Medical College of Georgia. The study accounted for factors such as age, race, and gender and looked only at patients admitted for one of 12 chronic conditions. So, Goodman argued, the variation could not be explained by differences in the patient population. Rather, some hospitals simply provided more care without improving patient health.

As further evidence, Goodman noted that the differences mirrored regional variations in Medicare spending per patient. That is, centers that expended more physician labor were located in regions with more-costly patterns of care. For example, Manhattan patients generally—not just chronically ill patients at NYU Medical Center—were likely to receive relatively intensive care.

**As national organizations began warning of the potential physician shortage, Goodman accumulated evidence pointing to the opposite conclusion. It's not a question of demographics, he says. In place of population projections, Goodman cites research showing that beyond a certain point, the number of physicians has little to do with quality of care.**

Goodman uses studies such as this one to make the case that the problem isn't a lack of doctors—it's how those doctors are used. In a 2006 op-ed essay in the *New York Times*, he wrote that if the ratio of doctors to patients at NYU was used as a benchmark for the entire country, an additional 44,000 doctors would be needed by 2020 just to care for the elderly. But, he added, if the ratio at more efficient medical centers —such as the Mayo Clinic in Rochester, Minn.— was used as a benchmark, then there would be a *surplus* of about 50,000 doctors by 2020.

In another study, Goodman examined the relation between the supply of neonatologists and infant mortality. Using data from the mid-1990s, he found that the number of neonatologists per 10,000 live births varied by region from 2.7 to 11.6, but once the supply reached 4.3, there was no further improvement in the mortality rate. Increasing the

## VARIATION IN THE PHYSICIAN SUPPLY

| Academic Medical Center | FTEs* per 1,000 Medicare beneficiaries during the last six months of life |
|---|---|
| New York University Medical Center | 28.3 |
| Robert Wood Johnson | 19.8 |
| University of California at Los Angeles Medical Center | 16.9 |
| Massachusetts General Hospital | 15.3 |
| Northwestern Memorial Hospital | 13.7 |
| Emory University Hospital | 12.8 |
| National Average | 11.9 |
| Yale-New Haven Hospital | 10.6 |
| Duke Medical Center | 9.7 |
| UC-San Francisco Medical Center | 9.4 |
| Mayo Clinic | 8.9 |
| Dartmouth-Hitchcock Medical Center | 7.7 |
| Medical College of Georgia | 6.0 |

* FTEs = Full-time equivalent physicians (adjusted for patient condition and quality of care)

SOURCE: GOODMAN ET AL., "END-OF-LIFE CARE AT ACADEMIC MEDICAL CENTERS: IMPLICATIONS FOR FUTURE WORKFORCE REQUIREMENTS," *HEALTH AFFAIRS* 25, NO. 2 (2006): 521-531

**In a study of end-of-life care at academic medical centers, Goodman found wide variation in the amount of physician labor used—differences not explained by variations in patients' condition or the quality of care they received. Goodman concluded that if the nation adopted the practices used by NYU Medical Center, there would be a shortage of physicians. However, if the practices used at a hospital such as the Mayo Clinic were adopted nationally, there would be a surplus of physicians.**

**Regions with more physicians provided more care without necessarily improving health. Dartmouth's Elliott Fisher believes that if health-care delivery were more efficient, "we probably could get rid of 20 or 30 percent of American physicians, with better outcomes and lower costs."**

studies, including the *Dartmouth Atlas of Health Care*, a series of reports on geographic patterns in health-care usage. The 2008 *Dartmouth Atlas* examined end-of-life treatment and Medicare spending and found that large variations in spending could only be accounted for by supply-sensitive care. In other words, regions with more health-care resources—such as physicians and hospital beds—provided more care without necessarily improving patients' health. In fact, the study showed that, paradoxically, higher spending led to lower quality of life and slightly worse outcomes.

Goodman and Fisher are far from alone in making these arguments. "Many Americans are getting too much health care. . . . Obviously the Wennberg group has shown this for years," says Jonathan Weiner, the Johns Hopkins researcher. Dr. Russell Robertson, a professor and chair of family medicine at Northwestern's Feinberg School of Medicine and the current chair of COGME, also speaks enthusiastically about the TDI research. "It's clear that physicians play a significant role in the increased costs with regard to health care," he says.

But not everyone is convinced, and perhaps no one less so than Dr. Richard Cooper, a professor of medicine at the Hospital of the University of Pennsylvania and former dean of the Medical College of Wisconsin. His has been one of the loudest voices calling for more physicians, and his work has often been cited by the AAMC as evidence for the need to increase medical school enrollments.

Cooper has pointed out that since 1929, there has been a correlation between economic growth and an increase in physician supply. Based on that historical model, he predicts that the physician shortage could reach 200,000 by 2020. So his conclusions are similar to those of the AAMC, but his approach is quite different. "What matters is how much money is available for the health-care system," he says. "Demographics don't matter." If the economy continues to grow, he contends, there will inevitably be a significant shortage of physicians. Of course, he notes, long-term economic decline would change that projection.

Cooper also rejects the argument that physicians can drive the use of health-care services. "Physicians don't cause colon cancer," he says. "They don't cause breast cancer. They don't cause heart attacks." What does drive health-care spending, he argues, is patient demand.

But denying the existence of supply-sensitive care is "a little bit like saying the sun doesn't rise in the east," says Shannon Brownlee, a senior fellow at the New America Foundation and the author of *Overtreated: Why Too Much Medicine Is Making Us Sicker and Poorer*. "How can you not believe this after the amount of information, the quality of information, that Dartmouth has compiled?" she asks. The problem with the argument that patient demand determines the use of health-care, she says, is that it assumes that the market actually works. "The assumption says [that] where there are more sick people, there will be more hospital beds and more doctors—but that's not what we're seeing," she says. Instead, research has shown that an overabundance of beds and doctors contributes to overutilization of those resources.

DMS's Nierenberg describes himself as a "middle-of-the-roader" in the workforce debate. "I believe there's a lot of waste in the system," he says. But, he feels, getting rid of that waste probably won't be enough by itself to meet the need for physicians. "I worry about large pockets of rural communities or inner-city communities that have virtually no medical services," he says.

The AAMC's Salsberg raises that concern as well. He says that if there is a physician shortage, those Americans who already lack adequate health care will be hardest hit. Goodman's arguments "sort of assume that the system is going to just miraculously turn around and reduce the marginally beneficial services," he says. "We worry that if you just assume the system is going to change, that the nation's going to find itself very seriously short, and that there will be major delays in problems of access, particularly for poor people."

But Goodman strongly believes that increasing the physician supply should not be viewed as a way to hedge the nation's bets in the event that the efficiency of the health-care system doesn't improve. In fact, he feels increasing the supply will make reforming health care *more* difficult. "It will make care less affordable; it will increase insurance rates," he says. "So it's not neutral—it really could be quite harmful."

In Shannon Brownlee's opinion, increasing the number of specialists in particular, under the current payment system, is "a recipe for disaster. It is a great way to drive costs up even higher and faster than they're going up already."

A further complication arises from the fact that over the past two decades, U.S.-trained M.D.'s have increasingly entered fields such as orthopaedic surgery and radiology, rather than primary-care fields such as family medicine and general internal medicine. In 2007, for example, graduates of U.S. allopathic schools filled about 90% of the first-year residency slots in orthopaedic surgery, but only about 40% of the residency slots in family medicine. In a recent survey of 12,000 physicians, less than 30% of the respondents who practice primary care said they'd go into primary care again if they had the choice.

At the same time, there's widespread agreement that access to excellent primary care is fundamental to an effective health-care system. "There's empirical evidence that remedying [a] very low supply of primary care influences, in a measurable way, what happens to a population in an area," Goodman says. A number of studies support that conclusion. In 2005, for example, Dr. Barbara Starfield of Johns Hopkins published an article in the journal *Health Affairs* analyzing physician supply and health outcomes. She found that areas with more primary-care physicians had lower overall mortality rates, but that there was no such link between the supply of specialists and mortality rates.

In a response to Starfield's findings, the AAMC's Edward Salsberg argued that using overall mortality as the outcome misrepresents the role of specialists. "We do not expect having more ophthalmologists, plastic surgeons, dermatologists, and many other specialties to lead to a reduction in mortality," he wrote, also in *Health Affairs*. Nonetheless, he said, those specialists contribute to improving Americans' quality of life. And both

## SPECIALTY CHOICE AND SALARIES

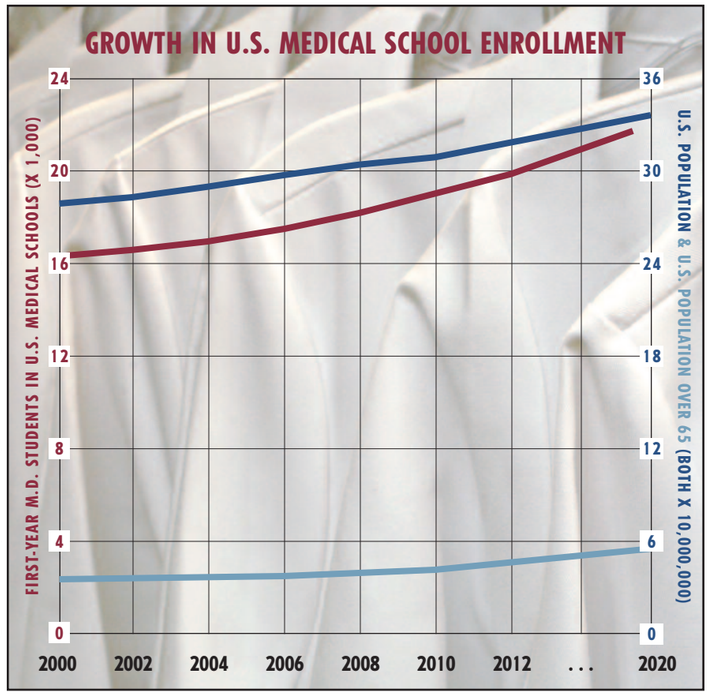
| Specialty | Average Salary | Percentage of residencies slots filled by U.S. M.D. graduates |
|---|---|---|
| Family Medicine * | $185,740 | 42.1% |
| Pediatrics * | $185,913 | 72.8% |
| Internal Medicine * | $193,162 | 55.9% |
| Psychiatry | $200,871 | 59.9% |
| Neurology | $222,998 | 51.9% |
| Pathology | $247,506 | 57.7% |
| Emergency Medicine | $255,530 | 79.7% |
| Obstetrics and Gynecology | $297,887 | 72.5% |
| General Surgery | $327,902 | 78.1% |
| Anesthesiology | $344,691 | 77.9% |
| Radiology | $414,875 | 88.7% |
| Orthopaedic Surgery | $436,481 | 93.8% |

* = Primary-care specialties

SOURCE: MARK H. EBELL, "FUTURE SALARY AND U.S. RESIDENCY FILL RATE REVISITED," *JAMA* 300, NO. 10 (2008): 1131-1132 (DATA IS FROM 2007)

**This chart shows the direct relationship between the percentage of various specialties' residency slots that are filled by M.D. graduates of U.S. medical schools and the average salaries in those specialties. In other words, U.S.-trained M.D.'s make up the vast majority of practitioners in the highest-paying specialties, while graduates of osteopathic medical schools and medical schools outside the United States fill many of the residency slots in the primary-care specialties (with pediatrics an exception).**

**In the opinion of the New America Foundation's Shannon Brownlee, increasing the number of specialists under the current payment system is "a recipe for disaster. It is a great way to drive costs up even higher and faster than they're going up already."**




**This chart shows some of the data the AAMC uses in making its case that the U.S. does need more doctors. The blue lines show past and projected future increases in the overall population (dark blue) and in people over 65 (light blue), while the red line shows past and projected growth in the number of medical students, as a result of the AAMC's push for growth in class size and the number of schools.**

**Instead of simply ramping up the production of physicians, Goodman would like to see better-organized workforce planning and changes in federal funding of medical education. "I don't believe that training programs should be rewarded for producing ever more doctors just to practice in the most affluent communities in the country."**

Salsberg and Cooper say that the high utilization of specialists means Americans are demanding those services.

But Goodman doesn't believe there's any evidence that the services provided by specialists are, in fact, what Americans value most. What's of value, he says, are the services that actually improve health. "We are interested in having a health-care system that helps improve the health and well-being of populations," he says.

And, Goodman adds, training more specialists will make it that much harder to enact the reform that everyone acknowledges the U.S. health-care system requires. "Health-care reform doesn't need more opposition from the profession," he says. "It doesn't need more anesthesiologists and radiologists saying that, 'Yes, we really should get paid twice and thrice as much as a primary-care doctor.'"

DMS's Nierenberg points out that the discrepancy in pay between primary care and most other specialties is one important reason that U.S.-educated M.D.'s tend not to go into primary care. Under the nation's current fee-for-service medical payment system, he explains, physicians get paid for performing procedures, not for spending time advising and counseling patients on their health-care options. According to a recent survey, family physicians and pediatricians earn an average of about $185,000, whereas the average for orthopaedic surgeons and radiologists tops $400,000. "We're the only system in the world that has such a disparity," says Johns Hopkins's Weiner.

A further factor in the specialty-choice problem, Nierenberg says, is debt. The average educational debt for U.S. medical school graduates who take out loans is now almost $140,000, and three-quarters of graduates have at least $100,000 in loans to repay. This gives young doctors a strong financial incentive to enter high-paying specialties instead of primary care—as well as to practice in areas populated with patients who are well insured.

But despite his concerns about the future of primary care, Goodman stops short of endorsing an increase in the supply of primary-care providers. "Primary-care physicians' effort can be as easily wasted as specialists'," he says. "So again, supply is not the answer to primary care."

Instead of simply ramping up the production of physicians, Goodman would like to see more-inclusive and better-organized workforce planning. Academic medical centers have dominated the discussion, he says, and that has resulted in a narrow focus on the role of physicians—excluding nurses, physicians' assistants, insurance companies, employers, and patients from the conversation.

Goodman also supports changes in federal funding of academic medical centers. He proposes enacting a competitive process for Medicare funds, similar in principle to the competition for research funding from the National Institutes of Health. "I believe that a competitive process has served us incredibly well in terms of research," he says. "And it could do the same in terms of promoting graduate medical education." Criteria might include, for example, what fields graduates enter, where they practice, and how well schools develop innovative training techniques. "I don't believe that training programs should be rewarded for producing ever more doctors just to practice in the most affluent communities in the country," he says.

For now, the future of the effort to increase the number of physicians remains unclear. In a survey conducted by the AAMC, almost all of the nation's medical school deans reported that their schools plan to expand; Salsberg thinks the goal of a 30% increase in M.D. graduates could be met by 2017. Osteopathic schools have also continued to grow,

*continued on page 58*

SOURCES: ASSOCIATION OF AMERICAN MEDICAL COLLEGES, "MATRICULANTS TO U.S. MEDICAL SCHOOLS BY STATE OF LEGAL RESIDENCE, 1997-2008" AND "MEDICAL SCHOOL ENROLLMENT PLANS: ANALYSIS OF THE 2007 AAMC SURVEY," AND U.S. CENSUS BUREAU

## The Supply Side of Medicine

*continued from page 48*

with first-year enrollment expected to surpass 5,000 next fall—a 40% increase over just the past five years.

Even Dartmouth Medical School has answered the call to grow. "Our senior class size a few years ago was about 68 to 70 a year, and in a year or two I think it will top out at about 83," says Nierenberg. "Something like 83 is probably what Dartmouth can do to help the country and still have the resources to do a superb job of training students."

Still, all that growth might not result in a significant increase in the actual number of doctors. Those medical-school graduates must go on to train as residents at teaching hospitals before entering practice, and most of the funding for residencies is provided by Medicare. But as part of the 1997 Balanced Budget Act, Medicare funding for this purpose remains capped at 1996 levels—about 80,000 residency slots—and it would take action by Congress to lift that cap. For now, at least, what seems likely to happen is that the growing number of U.S. medical graduates will displace some of the graduates of international medical schools, who currently fill about one-fourth of residency slots.

TDI researcher Elliott Fisher doubts that Congress will lift the cap anytime soon on spending for graduate medical education (GME). Russell Robertson, the chair of the Council on Graduate Medical Education, agrees. COGME has not officially revisited its stance on the physician workforce, but Robertson says at this point he doesn't recommend an increase in GME funding. "I'm increasingly convinced that lifting the GME cap isn't a good idea," he says. "I'm more and more convinced that what we're doing right now is probably going to produce a surplus of physicians."

The AAMC, however, has urged Congress to increase Medicare funding for residencies. That call seems likely to grow louder as medical-school enrollment increases.

Clearly, the debate over the physician workforce is far from settled. Goodman, for one, has no plans to stop asking the questions raised by his experiences two decades ago in Colebrook. The difference is that now, they no longer seem quite so heretical. ■

## Worthy of Note

*continued from page 21*

**Corrine Kravitz**, a fourth-year medical student, won second prize for her poster presentation at the northeast meeting of the Society of Teachers of Family Medicine. Her poster was titled "Adolescent Motivation as it Relates to Self-Image and Concrete Planning."

**Francoise Righini**, director of records management and health information at DHMC, was elected to the board of directors of the Northeast Health Care Quality Foundation.

**Erratum:** A story in the "Vital Signs" section of the Winter 2008 issue of the magazine incorrectly asserted that "snowboarders are more likely to hit the back of their head than the front." In fact, the research led by Dr. Susan Durham showed the opposite—that snowboarders are more likely to hit the front of their head than the back. Our apologies for getting our facts . . . well, backward. ■

## Patient Teachers

*continued from page 41*

preciated being part of the process and interacting with the health-care team. It was an incredible educational experience for me—certainly from a physiological perspective (I did learn a lot about diabetes management that day) but also from a humanistic perspective. Dr. Merrens was able to seamlessly incorporate teaching the two of us students with building a relationship with the patient and his family. It was a technique and an experience that I will not soon forget.

The two weeks I spent caring for Mr. Miller were, in essence, a syllabus in the practice of humanistic medicine. Mr. Miller reminded me from the moment I met him of the incredible role that physicians play in patients' lives and of the responsibility that comes with that role. He also was pivotal in demonstrating how caregivers' interactions with their peers and coworkers are another component in the practice of humanistic medicine and of how seamlessly those relationships can dovetail with direct patient care.

I feel lucky to have seen such a stunning example of how humanistic medicine can be practiced. I hope I spend my career working to remember these lessons and to incorporate them into my own practice. ■