Medical Education In The Future

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By some lights, the United States’ system of medical education is a stunning success in social engineering. Nearly four-score years ago, the Flexner report introduced educational rigor into medical schools at a crucial point in the profession’s development. Beginning four decades later, physician education went through a scientific revolution that made the quality of American medical schools and their tertiary care hospitals the envy of the world. Building on those strengths, the system underwent an impressive expansion in the 1960s and 1970s financed by hundreds of billions of dollars in third-party reimbursement funds and by federal capitalization grants explicitly designed to redress a perceived doctor shortage (a rationale later revised to a maldistribution problem). Without doubt, U.S. medical schools have contributed to and shared in the rising status and economic well-being of American doctors, whose net incomes have far outpaced all other workers during the past three decades.

Midway through the 1980s however, this prestigious and heavily capitalized social investment is beset by growing restiveness, dissatisfaction, even alarm. “American medical education is in a very vulnerable position,” the Columbia University economist Eli Ginzberg declared at a conference on “Medical Education in the Future” last December in Boston. “We could be in one hell of a mess in ten years.”

The day-and-a-half overview, organized by Grantmakers in Health, provided a sobering diagnosis of the interlocking dilemmas facing medical schools, teaching hospitals, policymakers and would-be reformers of the system. Presenters included some of the nation’s most respected veteran commentators on such issues along with a sprinkling of energetic and knowledgeable younger observers. Listeners and interactors represented close to $200 million in annual grantmaking power available for health and medical care projects.

The themes of the meeting, though complex, can be stated fairly sim-
ply. First, U.S. medical schools are graduating too many physicians and have shown only a slight inclination to reduce their output thus far, five years after a federal advisory commission projected a 70,000-doctor surplus by 1990. Second, the U.S. ratio of specialists to generalists, currently more than 3:1 and increasing, is inappropriate to national needs and to the rapidly changing market for physicians’ services. Third, the burgeoning cost of medical education is a powerful incentive toward choosing specialty careers, particularly when combined with the large and growing income disparities between specialists and generalists. Fourth, gains of the 1970s in redressing severe minority underrepresentation in the medical profession have not been maintained and, indeed, show signs of erosion—a trend that is exacerbated by the withdrawal of public loan subsidies. Finally, entrenched methods of medical education are inadequate to the task of molding doctors who are empathetic, cost-conscious, conversant with ethical and legal issues impinging on medicine, and sophisticated in the uses of computers.

Opening the sessions, Derek C. Bok, president of Harvard University, focused on this last theme. In September 1985, Harvard Medical School will formally launch a pilot program that Bok calls a “new pathway” to the medical degree. This experiment, described in detail elsewhere (Harvard Magazine, May/June 1984), will feature a sharply curtailed lecture schedule (no more than one a day, Bok said), intensive small-group and tutorial situations, and computer-assisted instruction with newly formulated software. On the substantive side, Harvard plans to pare down the amount of preclinical science instruction to a minimum and beef up students’ exposure to “psychological and social factors influencing health,” cost-effectiveness considerations, medical ethics, and the uses of computers in medical practice.

Other medical schools have tried and are trying their own recipes for reform with a view toward producing a more broadly educated physician. At the same meeting, David Greer, dean of Brown University’s School of Medicine, described his institution’s newly launched approach, which integrates the undergraduate and professional years for all Brown medical students. One hope, Greer said, is that the program will attract and admit a more diverse array of people than the narrowly focused, quantitatively minded pre-meds shaped by the usual competition to impress medical schools’ admissions committees. Still, Harvard’s new pathway is probably destined for high visibility because it bears the Harvard imprimatur and because Harvard’s medical school is in many ways the prototype of a science- and research-oriented institution.

Bok acknowledged the looming difficulties. “Medical schools, even more than any other professional schools I know, have a set of priorities and pressures within them that are not very receptive to major pedagogic and curricular change,” he said. “The major claim that will be made is that
these changes deny the centrality of science required for the training of doctors. . . . Cutting down on the number of hours spent (in science courses) will strike many professors as an attack on what they do and stand for and what their careers are devoted to.” Harvard’s strategy, therefore, is to start small, with about one-quarter of the entering classes in each of the next several years, and hope that the pilot will be so successful that it will create its own demand. Aside from minimizing faculty resistance, the expense of such an experiment is another reason for starting modestly.

As the experiment matures, Bok said, Harvard will have to find ways to pay for (among other things) faculty release time to provide the more intense instruction that the new approach demands, as well as faculty retraining in Socratic methods. As he pointed out, teaching is far down the list of what medical school faculty really get paid to do-and promoted for.

Discontent and attempts at reform are perennial fixtures in American medical education. Unfortunately, we know very little about past experiments. Albert L. Siu, Allison Mayer-Oakes, and Robert H. Brook of the University of California at Los Angeles reported that their ten-year survey of the literature found very few studies that have evaluated the impact of curricular experiments meaningfully, and none that could demonstrate long-term effects. Six- to twelve-week programs in such areas as empathy training and cost-effective test ordering “may be effective in the short term,” Siu said in summarizing the group’s survey, “but (they) will not be effective in the long-term if students go into environments where new skills and attitudes are not supported.”

This, in fact, is the central flaw in most blueprints for reforming medical education, said Gordon T. Moore of Harvard, who will direct the new pathway project. Most reform (apparently including the Harvard experiment as Bok has described it) concentrates on the first two, preclinical years of medical school. Yet, Moore pointed out, most of what we don’t like about the products of medical education can be blamed on the clinical and residency years, and, he said, there has been “virtually no innovation” focused on these crucial periods.

“Students are absolutely expert at knowing who we are and what they have to do to get through this system,” Moore explained. “They watch us like hawks to learn the medical culture. And this is how most people learn, not by learning the rules.” Moreover, Moore added, the demands of the medical culture cast a long shadow on the preclinical years, conditioning what students will absorb from that period—whatever the faculty says. In particular, the teaching hospital has become the focal point of all medical education. “The hospital represents all of medicine. There is nothing else,” Moore said. “The teaching hospital is actually a very selective experience, yet we behave as if it’s all there is.” Among the powerful
lessons that the teaching hospital model teaches, he said, are: That you have to “get the right answer,” that you “have to protect yourself emotionally,” and that productivity is measured by “getting the patients out.”

Among the group of preselected critics at the Boston meeting, at least, Moore clearly struck a resonant chord by identifying the teaching hospital—and by extension, the entire process of specialty training and certification—as major determinants of what’s wrong with our overspecialized, overtechnologized medical system. Without fundamental change in the hurdles that medical graduates need to pass to get certified, “all the curriculum changes in the world aren’t going to make much difference,” Steven A. Schroeder, chief of general internal medicine at the University of California at San Francisco, declared in the ensuing discussion. “We need new models for training outside the hospital setting. We need a balanced portfolio of opportunities for change all along the spectrum.” Anything less, he added, is “just taking out the carburetor over and over again.”

“What I am hearing,” said Thomas W. Maloney of The Commonwealth Fund, “is that medical education is not the engine. It’s a derivative, a reflection of what doctors do. . . . If this is the case, you are in the process of decoupling the mythology that the place to begin is the medical school.” Voiced early in the sessions, this notion came up repeatedly in various contexts. Everyone seemed to agree that changing the types of doctors produced by the system—in the direction of more generalists and fewer specialists, for instance—will require addressing the whole spectrum of medical education, from the pre-med years to post-residency fellowships.

The trouble with this formulation, of course, is that it considerably broadens the task of reform and engages more formidable opponents than do more abstract agendas dealing with curricular reform. The advantage is that it identifies the obstacles and pressure points more clearly, and so might lead to strategies bearing greater chances of success.

Take, for instance, the key matter of medical faculties’ clinical income. Even some white-haired veterans of medical school wars were surprised to hear, from August Swanson of the Association of American Medical Colleges, that about half of medical schools’ general-purpose income nowadays comes from faculty practice plans set up to take advantage of growing third-party reimbursement. “There is so much more money in real dollars available to medical schools to educate students than was the case twenty years ago,” declared Leighton E. Cluff, executive vice-president of The Robert Wood Johnson Foundation, “that I cannot believe there isn’t enough to accomplish whatever important objective there may be.”

Yet, as Cluff himself went on to acknowledge, this new income is not evenly distributed. “Those who earned the most acquired the most power on medical school faculties,” Cluff noted. At one institution with which he was familiar, the departments of radiology and ophthalmology were
“generating so much income that the department of medicine, which was providing 32 percent of all teaching in the medical school, to a large extent lost most of its influence and power. . . . This had profound effects on the educational process,” Cluff said, “and I don’t think we should overlook it.”

Certainly, several said, medical students and residents don’t overlook the economic disparities in medicine. Schroeder pointed out that those gaps have been increasing rapidly during the past decade, even though workloads have remained generally comparable across specialties (except for pathology and psychiatry). In 1983, Schroeder said, radiologists, surgeons, and anesthesiologists earned about 2.2 times more per hour than family practitioners did, up from an hourly differential of 1.35 only five years before.

National attention is now being given to physician reimbursement reform, and in particular to narrowing the growing gap between so-called cognitive versus procedure-oriented reimbursement. At this point, this promises to be a protracted battle with an indeterminate outcome. In the meantime, the income disparities can be expected to affect decisions to specialize among newly minted physicians, especially in combination with the medical school debt they incur these days.

That debt at graduation now averages about $20,000, reported John Craig, vice-president and treasurer of The Commonwealth Fund; however, he anticipates average indebtedness “doubling and tripling to $40,000, $80,000, even $120,000.” The annual debt service on $20,000 is less than $3,000, no great burden for most starting physicians. But paying off a $40,000 debt requires about $6,000 a year; and, as some students are already discovering, servicing an $80,000 market-rate Health Education Assistance Loan (HEAL) absorbs nearly $17,000 annually.

Indebtness of this magnitude is likely to undo earlier efforts to open medicine to poor and minority students. “If the first-year indebtedness exceeds the parents’ take-home pay, you’ve got a big psychological burden,” said Frances D. French of F. French and Associates. According to Ginzberg, moreover, there is already some evidence that a buyer’s market for physicians’ services is depressing income and limiting opportunities for doctors just starting out. Noting that doctors’ net incomes have increased far higher than all other U.S. workers, Schroeder commented: “It’s hard to feel sorry for doctors if they’re doing this well. But you might feel sorry for a low-income student who comes out of medical school with $100,000 in debts and wants to go into family practice.” Craig put it more bluntly: “There is concern that medical school will again become the preserve of the rich. . . . We are entering a period when financial considerations are becoming a major, perhaps determining factor in whether a minority student can enroll in medical school.”

The trend in minority medical school enrollment already “has a down-
ward tilt to it,” Craig reported. Leon Johnson, Jr., president of National Medical Fellowships, said that thirty fewer blacks graduated from U.S. medical schools in 1982 than in 1970, when many schools were in the midst of a campaign to boost minority enrollment. “Six U.S. medical schools didn’t enroll any blacks in their first-year classes this year, including Stanford, which has had a pretty good record,” Johnson said. The stabilization of total enrollment at the current level of 17,000, or its decline due to unfavorable markets for new physicians, “bodes ill for minority students,” Craig added. “It’s always easier to cut the pie up differently when it’s growing than when it’s shrinking.”

Since minority physicians disproportionately choose to go into primary care (though some argued that society should not expect them to shoulder this burden too), any falloff in medical schools’ minority enrollments will work at cross-purposes with efforts to bolster the proportion of generalists.

Is it a given that U.S. medicine must increase its complement of generalist, or primary care, physicians? Ginzberg pointed out that the American public “has voted with its feet up to now that it really likes the idea of specialist care. . . . The great unwashed public may not always be right,” he warned, “but you can’t ignore it in our kind of society.”

However, as Ginzberg also acknowledged, economic forces in American medicine may compel realignments in our specialist-rich mix, sooner or later. According to Schroeder’s figures, about 30 percent of U.S. physicians function as generalists (counting all family and general practitioners, three-quarters of pediatricians, two-thirds of internists and three-fourths of obstetrician-gynecologists). By comparison, most Western nations have 45 to 80 percent generalists; health maintenance organizations in this country employ 60 to 7.5 percent generalists.

As organized systems of care grow, all agreed, the nation’s physician specialty imbalance will become more untenable. Whatever the Congress decides to do about payment for specialty and subspecialty training through Medicare is another potentially potent factor that seems likely to move the system away from training such large numbers of subspecialists.

Ginzberg, citing the projected doctor glut as an instance of how easy it is to overshoot the mark in social engineering projects, urged foundation officials to leave “the specialty thing” to “the tender mercies of Congress, which will be doing all sorts of things with financing of graduate medical education,” He continued, “We don’t have the ability to operate in complex fields, in a continental country like ours, to move fields in a very detailed way.”

That leaves foundations with a strategy of acting at the margins-trying to increase the visibility and prestige of nonspecialists within medical faculties, for instance, or funding experiments in clinical training in venues outside the teaching hospitals. Such efforts will be up against power-
ful inertia, at least in the short- and medium-term. As teaching hospitals feel more pressured to fill beds and maximize income, medical school faculties will be less inclined to deemphasize more profitable tertiary and procedure-oriented care, a number of commentators said.

“I do perceive,” Cluff said in an emphatically stated summary talk, “that a lot (of medical faculty members) are really hellbent for election to try to maintain the status quo and their financial security. Therefore, any changes in educational programs in medical schools today are going to be very difficult to accomplish without some kind of economic incentives.”

Others preferred to put a somewhat more positive face on the situation. “I don’t want to underestimate the difficulty of changing this system,” said Schroeder. “Most tenured faculty have gotten there because of their specialty training and NIH grants. . . .” The “educational dynamics,” he said, are working against teaching hospitals as a place to train doctors at the same time that economic imperatives say we’ve got to put more resources there. “It’s a very unstable time,” he concluded hopefully, “but at unstable times, I think people can have more leverage.”