NATIONAL AFFAIRS

Re-Imagining the Doctor

Ronald W. Dworkin

The physician has long held a place of high regard in the American imagination. In our most idealized picture, the doctor is a well-trained, beneficent miracle worker. We listen attentively to the pronouncements of doctors, both the diagnoses and the casual advice. We generally pay them very well for their know-how, and a medical degree, if one can achieve it, remains a dependable path up the income ladder. Doctors enjoy great prestige because of their technical knowledge, analytical intellect, and altruistic spirit.

Despite this rich heritage and elite status, however, medicine is a profession in crisis and with an uncertain future. The U.S. faces a shortage of doctors, and today's practitioners are often wracked with anxiety. A 2007 survey showed that 57% of doctors would not recommend the field to their children. Less than half the nation's primary-care doctors would choose that field if given a chance to do things over again. Forty percent of physicians expect to leave medicine in the next few years, and the happiest physicians are those closest to retirement. Doctors have the highest suicide rate of any profession.

Money plays some role in all this, as the average American medical student graduates with $120,000 in debt, or four times the burden of 30 years ago, while physician incomes have declined 7% since the 1990s (adjusted for inflation). But money is not the whole story, as physician incomes are still much higher than they were in the middle of the 20th century when doctors expressed more enthusiasm for their work. Today, for example, an orthopedic surgeon typically makes ten times the average worker's salary; in 1931, it was less than three times the average.

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The culture has also undermined the profession's prestige. The miracle-working ideal of the doctor in the American imagination has steadily eroded. A doctor's knowledge gives him title to recognition and respect, but a culture increasingly suspicious of all authority is less willing to grant prestige to any profession. Websites like WebMD and the explosion of prescription-drug advertisements have helped patients and their families better understand their conditions and their options. But those same information-expanding technologies can encourage adversarial patients to insist on certain treatments and shop for second opinions. On net, the expansion of information reduces the doctor's hard-earned air of authority.

Perhaps the greatest contributor to the doctor's crisis is technological growth. New technologies allow treatments that once required a physician's unique gifts to be administered by robots, nurses, or even those with little or no training who can simply read a recipe. A computerized electrocardiogram can diagnose a heart attack. A nurse using an ultrasound can diagnose gallstones. The increasing mechanization and routinization of medicine has led ambitious futurists like Vinod Khosla, a venture capitalist and co-founder of Sun Microsystems, to argue that someday computers and robots will replace four out of five physicians.

These wide-eyed visions of the future shape our reaction to today's physician shortage in the United States. That shortage is expected to worsen over time, with a study in the *Journal of the American College of Surgeons* predicting a deficit of up to 214,000 doctors by 2025. A similar doctor shortage in the 1950s was treated as a national emergency, with Congress passing the Kerr-Mills Act in 1960 to boost the number of physicians. But with nurses, robots, and various paraprofessionals around to pick up the slack, Americans today have exhibited little alarm at the prospect of running out of doctors.

American doctors are, in short, challenged from without and confessing unhappiness within, while society debates whether we need to encourage more people to join their ranks. This is a crisis. But it is not an unprecedented crisis. American doctors faced an analogous situation a century ago during a debate about reforming medical education. The problem then was *too many* doctors, not too few. The same questions of identity — what is a doctor, and what distinguishes a doctor from other caregivers — that challenge physicians of our era confronted American medicine then.

As American medicine dealt with its identity crisis century ago, four competing visions of doctoring that emerged in the 19th century proved crucial to defining what it was to be a physician: the doctor as gentleman, the doctor as technician, the doctor as benefactor, and the doctor as scientist. These visions, and the interplay between them, formed the basis of a compromise that emerged with the famous Flexner Report on medical education in 1910. That compromise defined American medicine for the rest of the 20th century. It gave doctors a firm sense of who they were and what they were, and enabled policymakers to plan for the country's medical-staffing needs.

In our time, that compromise has fallen apart, exacerbating the problem of the doctor shortage and robbing doctors of their identities. For the nation, the crisis is very practical: How can policymakers determine the right number of doctors if no one even knows what a doctor is? For doctors the crisis is more personal, for what is a doctor if a doctor, a nurse, a robot, and a computer are all interchangeable? How do we recapture a doctor's prestige and, in so doing, improve medical care in this new, technological age? In truth, we do not need more doctors. We need an altogether new vision of doctoring.

THE FOUR DOCTORS

Historically, Americans' ideas about the role of the physician have tracked broader intellectual trends. Several different visions of medicine — all controversial in their own time — have built on one another, gradually reshaping and adding to our expectations of what a doctor should be.

The early republic's connection with old-world sensibilities left Americans with a sense that a doctor should be prized for his prudence and good character — that the ideal doctor is a gentleman. A simultaneous fascination with practical inventions and gadgetry introduced the idea of the doctor as a technician. A half-century later, the postbellum religious awakening emphasized the doctor's charity and conceived of his role as that of a benefactor. Finally, the Progressive era and its faith in scientific achievement imagined the doctor as a scientist.

These conceptions — gentleman, technician, benefactor, and scientist — are abstractions from very concrete arguments made by doctors and moralists in 19th-century America. It is worth investigating those arguments in order to better understand the nation's expectations of its physicians.

Dr. James Jackson can be credited as the founder of the doctor-as-gentlemen school. A co-founder of the Massachusetts General Hospital in the first quarter of the 19th century, Jackson wrote *Letters to a Young Physician Just Entering upon Practice*. In the book, he elaborated on medicine's delicate balance of artistry and knowledge, calling medicine a "liberal profession" because of how the doctor's mind is trained. He argued that, unlike medieval craft workers who were bonded to their masters, doctors use their powers of inquiry and are encouraged to think individually. But while they differ from artisans, he continued, they remain artists and do not become scientists, as the human condition is too complicated to be reduced to universal principles. Possessed of a kind of aristocratic skepticism, Jackson abhorred doctrines that sought to transform the human condition into an equation. Doctors work with limited empirical knowledge and must often choose a course with some doubt; they resemble more navigators on the seas than chemists in a lab.

For a doctor, Jackson argued, more important than scientific acumen is character. He advised people hunting for a new doctor not to employ any physician unless they could ascertain on good authority that the physician was "regularly bred" and of steady character. The good doctor is honest. He is prudent and discreet. He is astute, without allowing his astuteness to degenerate into profundity. He is flexible when confronted with facts; he changes his views, he admits to changes, and is ready to appear changeable — a gentleman in the best sense of the word. His value is a function of correct proportions of both intellect and temperament to which only a few people can aspire.

In 1811, Dr. Jacob Bigelow joined Jackson's practice, creating Boston's most prestigious medical group. Although ten years younger than Jackson and the practice's junior partner, Bigelow nevertheless brought important skills to the table. Like Jackson, Bigelow mistrusted medical doctrines and saw medicine as more art than science. Like Jackson, he believed a physician needed good character. But his vision of doctoring had a different emphasis — one of technical know-how. As a result, Bigelow, more than anyone, was responsible for the second ideal of the physician: the doctor as technician.

When the stethoscope was invented in 1816, Jackson had difficulty mastering the new instrument, admitting, "My ears are old and were not trained early." Bigelow, on the other hand — a born technician who, in addition to being a doctor, was also a botanist, an engraver, and a

bioengineer — found that such devices came as second nature. Indeed, *Worcester's Dictionary* (at that time the chief rival of *Webster's Dictionary*) cited Dr. Bigelow as the authority for the word "technology," which had fallen into disuse for decades but had emerged as a popular byword among "practical men" in the 19th century.

Bigelow advocated a more practical approach to training doctors, in line with the idea of the doctor as a technician. He argued that medical schools should teach the useful and not the superfluous: They should teach material that would help students provide day-to-day medical care rather than teaching obscure subjects that would be speedily forgotten after class. For the vast majority of doctors going into routine practice, an education steeped in the latest scientific research was a waste of time. A greater practical focus would streamline the education process, allowing for the creation of more doctors. The era of the gentleman-doctor with his aristocratic outlook was giving way to an era of many doctors bringing the greatest happiness to the greatest number. The education of the few was giving way to the education of the many, and thus education had to be redefined. Bigelow shocked the medical establishment, for example, when he recommended dropping the classical language requirement in pre-medical education.

His focus on the usefulness of the doctor's craft led him to compare the best doctor to a fine watchmaker. Medicine was an inexact science — unsettled in its principles and full of fallacies, doubts, and imperfections — so the doctor should excel at practical things and dispense with useless scientific theories. Although more democratic than the Jackson school, which saw medicine as too intricate a matter to be entrusted to the ignorant masses, Bigelow did fear poorly trained doctors who overused technology. Already by the early 19th century, American drug stores filled their shelves with bottles of "pills and pellets which . . . were often little less mischievous than the shots from revolvers." The doctor-as-technician had to be educated in order to use the burgeoning innovations well.

Unlike Jackson, who for much of his career believed the therapies of the day could control most diseases, Bigelow had doubts about what medical technology could accomplish, and he spoke out. In 1835, he delivered a famous address on what he called "self-limited diseases." Some diseases are limited by their own nature, he argued, while others have a course beyond the ability of medicine to affect. In both cases, the doctor

with an exaggerated faith in drugs and bloodletting — in other words, the bad technician — poses a risk to patients.

Both Jackson and Bigelow were active physicians who came to their views about medicine through their personal experiences in practicing it. But not all American theories of doctoring were derived this way. Reverend Henry Spalding, a Catholic clergyman who worked as an administrator at the medical school at Loyola University in Chicago in the early 20th century, came to his conclusions about the role of the doctor not by practicing but by theorizing. He downplayed scientific knowledge after metaphysical inquiry, not because of any direct experience with science's limitations. His inquiry led him to a third vision of the American physician: the doctor as benefactor.

Spalding argued that, in medicine, science should be subordinate to the caring impulse. Indeed, he imputed a transcendent merit to the medical profession: Doctors needed personal integrity, but above all they needed to be faithful to a higher law of morality. The physician is "one of the most highly valued benefactors of mankind," Spalding lectured students. Other than the position of clergyman, no other occupation comes close, he said. The doctor's purpose is to serve; it is the will of God.

So profoundly special was medicine, Spalding explained, that even the question of how to pay a doctor had to be treated differently. Paying "wages" was fine for common laborers but insulting to the high calling of a doctor. A "salary" sufficed for standard official and intellectual work but not for a helper of mankind. Even a "fee" for professional activity trampled on the nobility of caring, he insisted. Instead, doctors should look upon their compensation as an "honorarium," money offered not as a measure of work performed but as a kind of tribute. Spalding wrote that "no one can find fault with a physician for making his profession . . . a means of earning an honest livelihood and a decent competency; but to ambition this career solely for its pecuniary remuneration would be to degrade one of the most sublime vocations."

Spalding spurned the Jackson school's social elite and the Bigelow school's meritocratic elite, arguing that the medical profession should be open to any right-thinking individual, whatever his social background or intellectual preparation. In this way, Spalding's vision of medicine was the most democratic of all.

Meanwhile, Abraham Flexner, a contemporary of Spalding, was another non-physician theorist of medicine, but one with quite

different sources of inspiration and instruction. The son of German-Jewish immigrants, Flexner attended Johns Hopkins University, the first German-style, modern research university in the United States. A writer and educator, Flexner authored a famous 1910 survey on the state of medical education in America. The so-called Flexner Report praised Johns Hopkins School of Medicine above all others for its rigorous scientific education.

Medical advances during the second half of the 19th century convinced many doctors and educators, including Flexner, that medicine is not just an inexact art of healing, but something decreed by laws no less exact and inevitable than the law of gravity or the movement of stars. This demanded a transformation of the physician: The doctor must be a scientist. This is the fourth ideal of the American physician elaborated in 19th- and early-20th-century America.

The body is complex, Flexner conceded, but it is a complex *system* that we will, over time, learn more and more about. Progress might be slow, but it is sure. Doctors must therefore be systematic. They must hypothesize when making a diagnosis and test that hypothesis after gathering and evaluating facts. True, Drs. Jackson and Bigelow had described good doctoring in similar fashion almost a century earlier, but they had failed to connect their approach to the unified system of thought and activity called science that was becoming a doctrine in its own right.

Like Drs. Jackson and Bigelow, Flexner believed in the importance of "doing" and not just "watching." But Flexner broke with the Bigelow school of thought over the relative importance of practice and experience in medicine. Flexner recognized the value of experience, but he believed the technically adept doctor who practiced wisely and safely thanks to his experience, thanks to habit, and sometimes even thanks to "rules of thumb," ranked lower than the doctor who prosecuted disease through the scientific method, who readily assimilated new scholarship, and who resisted falling into routine.

In this respect, Flexner resembles Rev. Spalding, as both men were somewhat revolted by the ultra-practical in medicine, whether it be the unsavory business side or the dull technical side, and envisioned doctoring as being high above the common trades. For Rev. Spalding, it was the idea of service that placed doctoring on a higher plane; for Flexner, it was the idea of science. Drs. Jackson and Bigelow practiced medicine and took a less vaunted view of their profession; they saw the value in habit and routine.

Where Flexner broke with Spalding was over the matter of who should become a doctor. Rev. Spalding emphasized attitude: If a person wanted to serve, that person should be able to become a doctor. Flexner emphasized scientific acumen; just wanting to serve was not enough. Pre-medical students needed to meet certain intellectual standards.

the 20th-century compromise

These four competing visions of doctoring clashed in 1910 with the publication of the Flexner Report. In advancing the idea of the scientist doctor, Flexner declared many of the nation's medical schools substandard. But, contrary to accepted wisdom about this era, the outcome was not a total victory for the doctor-as-scientist vision. Rather, a compromise among all four visions emerged, and it lasted until the end of the 20th century.

By 1910, the doctor-as-gentleman school had grown too elitist to enjoy a mass base within the medical profession. Still, Harvard presidents Charles Eliot and Lawrence Lowell carried the torch. In 1911, Lowell argued for the importance of the traditional liberal arts in pre-medical education, in contrast to Flexner, who considered the liberal arts a luxury relative to the more essential basic sciences. Flexner's position prevailed, although, as a nod to the gentlemanly ideal, an English literature requirement remained in the nation's pre-medical curriculum well into the 1970s, and most medical schools still require evidence of their applicants' having taken English or writing courses.

Although doctors no longer received an aristocratic education, elements of the gentleman ideal remained. Ironically, modernizing the medical profession made it *less* democratic. Prior to the Flexner reforms, women, racial minorities, and the poor were able to pursue medical training in significant numbers, since the U.S. housed 160 medical schools. Three schools were devoted exclusively to women; seven to African-Americans. Almost half of the country's medical schools closed in the wake of the Flexner reforms, however, including two of the three schools devoted to women and most of those that educated black physicians. After a glut at the end of the 19th century had left the nation with one doctor for every 568 persons — twice as many as in England and four times as many as in France or Germany — the Flexner Report's recommendations resulted in a dramatic reduction in the number of new physicians produced by American medical schools. The number

of women and minorities in medicine plummeted; between 1920 and 1964, less than 3% of students entering American medical schools were black. As a result, the medical profession became largely the preserve of Protestant white men educated at the more elite schools.

The new standards in medical education also involved a compromise with the vision of doctors as technicians. The Flexner reforms increased the academic standards of medical education, but the medical community did not follow Flexner's recommendation that a doctor's education become truly academic. Established doctors balked at the idea that medical professors should be full-time school employees who taught students and performed research, rather than independent practitioners whose main loyalty was to their practices. "Teachers of anatomy and pathology are not practitioners of medicine," Dr. Arthur Dean Bevan, Director of the American Medical Association's Council on Medical Education, insisted in 1921. "They are not in touch with the problems of scientific clinical medicine, nor with the art of medicine." Jackson's doctor-as-gentleman school concurred, although more out of a disgust with the idea that some gentlemen might dictate other gentlemen's salary. A compromise emerged, with some medical schools realizing full-time faculties and others retaining a mixture. In this way, the practical doctor solidified his position in 20th-century medicine.

The doctor-as-benefactor school, in the form of Rev. Spalding himself, was the source of staunchest opposition. Although Spalding emphasized his opposition to reforms that made it harder for a man without means — the "poor boy" — to become a doctor, his primary concern was moral and religious. He objected to the Carnegie Foundation, which had commissioned the Flexner Report, "for its anti-Christian spirit," and snarled that Carnegie should call itself "the Carnegie Foundation for the Secularization of Education."

The Carnegie Foundation was loath to pick a fight with the minister; indeed, its general secretary suggested that Spalding *wanted* a fight so that he could go straight to the newspapers with his charge of secular immorality. But, in the end, a compromise was reached on this front too, with the doctor-as-benefactor idea's strict emphasis on religious morality allowed to penetrate deep into the medical profession. For example, while the prescription of abortifacients was not uncommon among 19th-century medical providers, such activity was banned among 20th-century physicians. Holding back morphine to keep a dying patient

conscious — to let the patient prepare to meet his Judge, as Spalding grimly declared — became a fixture of 20th-century medical practice. The doctor-as-benefactor school's contempt for business-minded physicians also penetrated 20th-century medicine, with the 1847 ban on physician advertising continuing until the mid-1970s. Even as late as the 1980s, when I was a medical student, teaching young doctors about medical economics was thought to be undignified.

an unraveling ideal

The Flexner Report resulted in a grand compromise that defined the ideal American physician for many decades. That physician was a composite of the four visions: a gentleman-scientist with a fine education, clothed in a lab coat, expert in the technical details of his specialty, and so compassionate that he affected not to think of his fee. This ideal gave 20th-century doctors a strong sense of identity. But the compromise fell apart over time, leaving both doctors and laymen confused about what exactly a doctor should be.

The gentlemanly vision of the doctor rightly collapsed with the mass entrance of women and minorities into the profession. Today, the liberal-arts component of this ideal lives on in the benign elitism of "medical humanities," an obscure discipline that rarely sheds its ethereal academic character and so does little to enhance clinical judgment. But lost with the decline of the gentlemanly vision was also one of the few remaining ties connecting medicine to the mysterious and ancient profession it used to be. Medicine became a job. As such, all jobs in health care acquired an air of resemblance, making the substitution of doctors with nurses, robots, and computers seem reasonable.

The technician vision collapsed by virtue of its own success. High technique distrusts man; it has no faith in his resourcefulness. Wherever possible, technique tries to protect itself from errors native to a living creature. In this spirit, organized medicine during the 20th century aspired to make medical practice "foolproof." In other words, it aspired through technology to render the good doctor unnecessary — the CT scan would compensate for the bad neurologist, the pulse oximeter would compensate for the bad anesthesiologist, and the ubiquitous practice algorithms would simplify medicine to the point of making it a cookbook. The ideal of the technician succeeded, but as a result it enabled lesser-trained professionals to practice medicine safely, thereby

paving the way for doctors to be replaced with, again, nurses, computers, and robots.

The vision of the doctor as benefactor also collapsed, primarily at the hands of a secularizing culture. Its collapse was egged on, in no small part, by the technician vision and new reproductive and end-of-life technologies that challenged traditional morality. Yet the benefactor ideal also collapsed by its own hand. The followers of Rev. Spalding — whose ideals had always been more service-oriented, democratic, and commercially attuned than the other visions of medicine — saw the free market as a way to improve medical service. The free market meant "business," which was anathema to Spalding, but it also meant less governmental regulation, which was transforming the medical profession into a social and meritocratic elite by restricting entrance. The free market ineluctably transformed doctors into "providers," however, putting them on the same level as other service providers, including, once more, nurses, computers, and robots.

Flexner's vision of the doctor-scientist collapsed because of its inability to deliver on what it had promised. Most of the advances in 20th-century medicine arose not from university scientists but from doctor-technicians working in private pharmaceutical and medical-device companies. In addition, university scientists fighting over grant monies proved to be as interest-oriented as medicine's private practitioners. Nor did the Flexner reforms fix the geographical disparities in the supply of physicians. If doctors are rare, or when the only doctors are hapless lab scientists, then nurses, computers, and robots naturally rush in to fill the void. Finally, many patients found the doctor-scientist cold and aloof and preferred the benefactor's bedside manner.

The crisis in the medical profession today thus resembles the crisis that plagued the profession a century ago, prior to the Flexner Report. The crisis then involved too many doctors, with good doctors arrayed against a mass of poorly trained physicians, lay doctors, and practitioners of alternative medicine. The crisis today involves too few doctors, with doctors arrayed against nurses and other lesser-trained professionals, such as optometrists, pharmacists, midwives, as well as computers, robots, and practitioners of alternative medicine — all of whom want to fill the doctors' shoes. The same existential questions hang over both crises: What is a doctor, and why do we need them? To address today's crisis, these questions must be answered, but in a new way.

the doctor as leader

In some ways, medical practice in America is reverting to a historical norm. Obviously the science has changed, but the doctor-patient relationship — the foundation of the practice of medicine — has returned to its pre-modern and early-modern form. In antiquity and the Middle Ages, patients often expressed dissatisfaction with their doctors, confronted doctors with their own ideas about therapy, shopped around for second opinions, and sued their physicians. The temporary 20th-century reprieve, which began with the Flexner Report and saw patients deferring to their doctors and knowing much less than their doctors, is over.

Medical advances have also forever altered the conditions doctors must tend to, as well as the feelings and expectations of their patients. New treatments have fostered the illusion that any malady can be overcome and that fortune can be tamed. This dynamic, itself strengthened by a culture that yearns for individual choices to be free of all man-made and natural restrictions, is further complicated by the way in which medical advance has, in many cases, not cured patients, but rather allowed them to live longer lives with chronic diseases. Patients' expectations of health have been raised, while, in our aging society, their experience is increasingly that of frailty. They feel a deep sense of injustice at this situation. These feelings demand attention, and it is by tending to them that doctors can distinguish themselves once again.

In other words, doctors must become leaders. They must be more than gentlemen, scientists, technicians, or benefactors; they must emphasize their prudential and diplomatic skills in mediating between people, managing expectations, and inspiring hope. Indeed, before the age of science, this had always been the core of doctoring. The doctor did not cure people very often, since he had so few real therapies available to him, but he guided his patients' sentiments. The age of scientific discovery allowed doctors to develop a dangerously exaggerated view of their own abilities to cure, making them complacent toward this core function of managing people and their expectations.

Because of their extensive knowledge base, doctors are well-positioned to function as leaders. Few take orderlies or nurses' assistants seriously when they talk about what patients need. But when doctors talk about patient needs, people tend to listen because doctors have the power and knowledge to define expectations and satisfy them. If a doctor

were to tell a patient that he will die from a disease unless something drastic is done, then a process of great scope would be immediately unleashed. Anyone else who said so might draw curious attention but little more. Doctors have the power and knowledge to create the conditions that verify some of their predictions. Hard scientific and technical realities form part of the doctor's persuasiveness, but confidence and charisma — the virtues of a politician — are also essential. In both guiding expectations and inspiring trust, this vision of doctoring looks a lot like statesmanship.

Whether it is an individual patient suffering from diabetes, a thousand people suffering from an obscure disease, or an entire cross-section of the population dealing with old age, people feel threatened when they are sick. They will naturally seek out and put their faith in those they presume to have the best knowledge of the situation. Doctors must formulate answers for these people and, by virtue of their power and knowledge, set things in motion to bring about the conditions necessary to achieve a solution. This is leadership.

One example of leadership can be found in the new "team approach" to medicine, where doctors function as part of a multi-specialty group of caregivers who work closely when managing patients, as opposed to the traditional one-on-one approach.

To the degree that they do aspire to leadership, doctors have traditionally fallen into one of three categories: the doctor who takes a straightforward dictatorial approach, the doctor who is a fine administrator, and the doctor with an impressive knowledge base but without much skill in managing others. None of these describes true leadership. The doctor as leader must be able to direct nurses and other paraprofessionals while allowing them to perform the technical tasks they are competent in. Oftentimes, medicine can be routine, so the doctor can stand aside to a degree. When medicine is not routine, however, leadership is necessary.

The doctor has a broader consciousness than anyone else on the team. In this way, he "legitimates" the patient plan, not just for the obvious reason that he gives the orders, but because his broad consciousness becomes a unique source of authority and power when a medical situation diverges from its ordinary course. Indeed, he must understand the situation and take control even if he cannot do much about the problem itself. In such a case, his job is to "build morale."

Another example of leadership involves chronic disease. When many people are living concurrently with the same chronic disease, the disease cluster becomes an interest group. The job of the doctor as leader is to represent, even justify, that interest group's problems to the larger public, which may express doubt. In a world where chronic disease is a major problem, and where science is limited in what it can do, average people must be taught to self-police in the cause of prevention and treatment. In this respect medical practice is returning to what it was before the age of science, when laypeople knew that they themselves were the most important players in guarding their health.

A third aspect of medicine in which leadership is necessary is in our relationship to science. In the old compromise that emerged after the Flexner Report, the doctor was a scientist and a technician. In the new compromise, the doctor must go beyond science and technology. As a leader, a doctor must use his judgment and experience to put science in perspective. He knows what amount of habit and routine is reasonable in medical practice, when to depart from it, and when to allow subordinates to depart from it. He knows when technology is important and when it is just a fashion that can be dispensed with. He knows that health-care professionals are at risk of falling prey to superstition, even though they are trained in science. He knows they run the risk of turning science into ideology, which can oscillate between zealous support for newfangled medical movements and a stubborn refusal to accept new paradigms. These insights represent opportunities for leadership, and they can distinguish the doctor from other health-care professionals.

A NEW VISION OF DOCTORING

Physicians are anxious and worried about the future of their profession. Doctors express little enthusiasm for their work, and most would not recommend the profession to others. High medical-school debt has something to do with this crisis, as do the uncertainties brought on by Obamacare. But most of all, the doctor crisis is the result of a lack of recognition by a culture that no longer seems to know what doctors should do. Given that we face the possibility of a large doctor shortage in the coming years, it is imperative that Americans re-imagine the doctor and that he adopt a new role commensurate with the demands of the 21st century. Indeed, we will face a doctor shortage only if doctors refuse to embrace a new role.

The compromise among the 19th-century ideas of a doctor that prevailed for the 20th century has unraveled. The gentlemanly idea seems quaint and offends our egalitarian values. The technician has put the very existence of physicians at risk. The massive expansion of scientific knowledge has meant that a beneficent disposition is not nearly enough to make a good doctor. Meanwhile, scientific advance has led us to a point where the cold and distant scientist who develops the cures is less and less relevant. Medicine, in this age of chronic disease, now consists of managing expectations, raising hopes, and commanding a well-trained team.

The way to re-inspire doctors is to conceive of them as leaders. Nurses and robots will pick up many of the technical duties, but they can never direct a plan of treatment with the right mix of charisma, authority, and decisiveness. In short, doctors can uniquely possess a type of prudence. Just as medical schools adjusted to the new wave of laboratory science after the Flexner Report a hundred years ago, schools must again adjust to the changing realities. They must teach doctors to be leaders.