Medical Leadership and the Future of Health Care

Miles F. Shore, MD
Malcolm Wiener Center for Social Policy, Kennedy School of Government, Harvard University, Cambridge, Massachusetts

Introduction of Doctor Shore by President Richard P. Anderson

It is my pleasure at this time to introduce the Ralph Alley lecturer. You will notice in your program that this lecture is supported by a grant from the Cardiothoracic Research and Education Foundation of Spartanburg, South Carolina. This is a private foundation created by one of our own members, Dr Joe R. Utley. Joe is presently recovering from a severe illness and can’t be with us, and we certainly wish him a speedy return to good health.

Dr Ralph D. Alley, for whom this lecture is named, was not only a founder of this Society but he served as a mentor to most of the officers and many of the members over a period of 20 years. As both an inspiring teacher and a humanist, I believe that he would approve heartily of our lecturer this year, who is Dr Miles Shore.

Doctor Shore is a psychiatrist. He was educated at the University of Chicago in undergraduate work and then subsequently at Harvard University. His distinguished career in mental health includes both clinical and administrative appointments at Tufts University School of Medicine and at Harvard University. He is presently Professor of Psychiatry and Director of the Division of Mental Health Systems at Harvard. In 1993 he was appointed visiting scholar at the Kennedy School of Government at Harvard, and in 1996, together with Dr Joseph Newhouse, Jack M. Matloff, and other members of this Society, he created the Health Policy Executive Program, Understanding the New World of Health Care. Subsequently, he has served as an enthusiastic director of that course. His particular interests are health policy and leadership. Those of us fortunate enough to have heard his lectures are impressed with both his scholarship and his insight into human behavior. As we approach the new century, there is no better guide to the complex world that health care has become than Miles.

It is a pleasure for me to be here to deliver the Ralph D. Alley Lecture. I did not know Dr Alley. However, according to what his friends and colleagues tell me, my topic, medical leadership and the future of health care, is an appropriate tribute because he was a very special kind of leader. He was more interested in contributing to his profession than to his personal prominence; he showed his deep concern for the future by advancing the careers of young people; and he had an unusual capacity to engender loyalty through deed as well as word.

In talking about medical leadership to this audience, I am in danger of preaching to the choir. Of all the specialties of medicine, thoracic surgery is one that has a most legitimate claim to this role. It is your specialty that represents leadership in medical technology, the defining characteristic of American medicine. Yours is a specialty that involves exquisitely choreographed teamwork to achieve truly astonishing clinical results with equally astonishing reliability. Because of your leadership of those teams my being here this morning reflects your leadership in seizing the future by educating your members in health policy through the partnership between The Thoracic Surgery Foundation for Research and Education and the Harvard Division of Health Policy Research and Education. That course and I personally have benefited from the leadership of Drs Jack Matloff, Hal Urschel, and Martin McKneally and the outstanding group of your members who have made the exceptional commitment to take the course.

Actually, there is little danger of preaching to the choir, for this talk will not be about leadership in familiar domains. Rather it will focus on a much more uncomfortable kind that may—in fact, must—upset the apple cart of medical practice. I will discuss leadership to develop new forms of medical practice and new systems of care. I think new forms, created and led by physicians, are necessary or else health care of dubious quality will continue to be bought and sold like cornflakes. Briefly, I will look at the present system and offer a diagnosis based on signs and symptoms of what I see as its illness. I will examine the pathophysiology of this condition, related to a profound, chronic disorder of accountability—a type of stress disorder secondary to the advance of medical technology. Finally, I will offer treatment recommendations, some of them in the category of tough love, that for some will be a ratification of what they are already doing.

Present System

Background

We all know that we are experiencing an exhilarating rush of technological innovation—what has been termed
an advanced state of technical arousal—that is profoundly affecting our lives. From the laptop in our briefcase to the perfect landing of a fly-by-wire Boeing 777, we are all beholden to the ubiquitous microchip. That intoxicating rush of technological innovation is nowhere more apparent than in American medicine. After all, it is our defining characteristic, historically and globally. What is not widely appreciated is the extent to which our mode of practice has failed to keep up. What we do for patients is vastly different from what it was 40 years ago; how we do it has changed very little. Here is an example of what I mean.

Suppose that in this year, 1999, we were to place on the bridge of a modern cargo ship, the captain-owner of a sailing vessel from the 1830s. How would he react? I suspect that he would be confused and unable to function. There would be no masts or sails; the ship would be a great deal larger than his own vessel; and he would be on a bridge that looked like an office. There would be no steering wheel and no binnacle and compass; instead he would see only banks of computer terminals, switches, and dials. One of the (only) two officers on watch would be sitting in a comfortable chair alternately looking out the forward windows and then at a radar screen swept by a green line leaving occasional smudges. Occasionally a buzzer would sound; the officer would consult a dial that resembled a clock and would turn off the buzzer by flipping a switch. Soon the ship would begin, by itself, to alter its course, responding, our resurrected captain might be confused at the experience months before. He would be surprised to learn that the ship was not owned by the modern captain, and he would be even more surprised that that captain was keeping in touch by radio and by computer with managers in the large company that did own the vessel. He would be amazed that the cost of carrying the cargo was low, that the ship was on a regular schedule, that it could reach Europe in less than a week, and that it was extremely safe, thanks to electronic navigation, fire detection systems, and advanced steel construction. Although our fast-forwarded captain might be confused at the office-like ambience of the modern bridge, he probably would not miss the uncertainty and sheer physical terror of voyaging under sail.

A physician from the 1830s, placed in a modern physician’s office, would not be nearly as lost. The surroundings would be generally familiar: a waiting room, an office, an examining room. Asked to see a patient, he would take a history, starting with the chief complaint, do a physical examination not dissimilar from a modern one, and would consider various diagnoses. Here he would begin to founder, although it is likely that he would at least be in the general area of the affected organ systems. When it came to diagnostic tests, more elaborate diagnostic possibilities, and consideration of therapies, modern technological medicine would take over, and our 1830s physician would be as much at sea as his seafaring contemporary. He would be at home, however, with fee-for-service payment, although he would be as outraged as we are at having to plead with a utilization reviewer.

It is not surprising that our mode of practice, what Dr Paul Uhlig (personal communication) has termed the “social architecture” of health care, has changed so little. Healing, after all, has been a function in every society, and its history is the history of the human race. Although healers have always had some technology, medical science is at most 450 years old given that Vesalius set us on an empirical course by anatomic dissection in the mid-16th century. It is only in the last 60 years, since the invention of antibiotics, that technology has been sufficiently complicated to challenge the traditional model of practice. Medical technology has had to shoulder its way into the much older relationship of healer to patient, and it has not been an easy task. One of my colleagues at Harvard turned up with a 1959 issue of Life in which the lead story was based on public lament about the way in which modern medical technology was destroying the personal relationship between physician and patient. Doctors, it charged, were more interested in exotic diagnostic tests and complicated treatments than in knowing their patients as people.

Signs of Problems

Now there are signs that we have the opposite problem: that medical practice, as currently conceived and organized, is having some difficulty in applying consistently the most modern technology and best practices to the care of a surprisingly large number of patients. The data to back that unpalatable assertion come from recent studies of three areas: practice variation, patient safety, and quality of care.

PRACTICE VARIATION. Dr John E. Wennberg [1], of Dartmouth Medical School, for example, has demonstrated wide geographic variation in the care of women with breast cancer. The decision to use lumpectomy versus mastectomy seems to be based more on regional patterns of practice than either the best practices grounded in research or the personal preference of patients for one or the other form of treatment.

PRACTICE VARIATION. Dr John E. Wennberg [1], of Dartmouth Medical School, for example, has demonstrated wide geographic variation in the care of women with breast cancer. The decision to use lumpectomy versus mastectomy seems to be based more on regional patterns of practice than either the best practices grounded in research or the personal preference of patients for one or the other form of treatment.

PATIENT SAFETY. Another line of research—studies of patient safety and medical error—raises somewhat different concerns about traditional modes of practice. Extrapolating from reviews of hospital charts, Leape [2] estimated that 180,000 patients each year die partly as a result of medical errors. That is the equivalent of three jumbo-jet crashes every 2 days! Many physicians are skeptical that things are that bad. However, even if Leape exaggerated threefold, that is still the equivalent of one crash of a jumbo jet every 2 days. Is that really a lot better?

The medical errors Leape [2] discussed include missed diagnoses, failure to treat promptly, drug overdoses, giving the wrong drug, and failure to get a follow-up culture to check for antibiotic resistance when the patient does not respond to treatment. Even though errors occur in as few as 1% of the many events that happen to a patient in the course of an illness, this is a much higher
error rate than is tolerated in many other industries that apply technology to human safety and welfare. As Leape [2] pointed out, commercial aviation, nuclear power generation, and naval aviation have all been successful in vastly improving the safety of their operations. And what these other industries know about error prevention, which is a great deal, could help us do a much better job.

The problem is twofold: first, our certainty that information from other industries does not apply to us (a response typical of threatened industries) and second, our reliance on a system of care that assumes that doctors can practice safely and at the highest standard if they are sufficiently intelligent, well trained, and conscientious. As a result, we have not made use of the considerable body of findings from human-factors research that demonstrates that human error is inevitable but can be minimized or prevented by creating systems around individuals that make it much more difficult or even impossible for them to make mistakes. Medicine is thus very different from other high-hazard professions, such as piloting airplanes and running nuclear power plants, that rely heavily on the simplification and standardization of processes and on a variety of technological aids to improve the safety of their work. We tend to reject such solutions as “cookbook medicine” that violates our professional autonomy and fails to take into account the fact that each patient is different.

QUALITY OF CARE. Finally, there is deep concern in some quarters about the quality of care that is actually being delivered to our patients. Two recent studies [3, 4] in The Journal of the American Medical Association found that 21% of all antibiotic prescriptions given to children and adults in 1992 were used to treat colds, respiratory infections, and other conditions for which antibiotics are ineffective, thereby risking adverse drug reactions and increasing antibiotic resistance. Another study [5], reported in the same journal, looked at elderly patients who had sustained a myocardial infarction. Seventy-nine percent of them had not received β-blockers. Over the next 2 years, this group had a 75% greater death rate than patients who had received the medications.

A recent consensus report from the Institute of Medicine [6] reviewed many of these studies. The report identified three categories of quality problems. The first was underuse: failure to immunize 100% of children or prenatal care begun too late to prevent complications of pregnancy would be examples. (Contrary to expectations, a number of the studies cited by the report found that underuse was more common in fee-for-service than in managed care plans.) Misuse, the second category, involves injury from the preventable complications of treatment and is related to medical error. The report cites research indicating that there are, on average, 2,000 patient injuries per year from the administration of medication in each large teaching hospital examined. Twenty-four percent of these injuries were preventable, and each of them added, on average, almost $5,000 to the cost of the hospital stay during which it occurred [7]. The third category, overuse, was also found to be common.

The consensus report [6] came down hard on the inadequacies that I have identified in the system of care. The authors wrote: “the burden of harm conveyed by the collective impact of all of our health care quality problems is staggering.” They sound the alarm of urgent need of rapid change. “Meeting this challenge demands a readiness to think in radically new ways about how to deliver health care services and how to assess and improve their quality. Our present efforts resemble a team of engineers trying to break the sound barrier by tinkering with a Model T Ford. We need a new vehicle or, perhaps, many new vehicles. The only unacceptable alternative is not to change.”

Pathophysiology

I will now describe some of the characteristics of our present system of care that seem to me to contribute to the problems. These characteristics relate to professional accountability and reflect a compromise solution to an inescapable conflict between professional autonomy and accountability. Our current system represents such a compromise that was reasonable in a less technologically sophisticated era, but which, I suggest, may have outlived its usefulness.

Background

Organized medicine in the United States has vigorously and successfully defended the autonomy of individual practitioners against threats from organized corporate practice since at least the late 19th century when large industrial concerns made forays into marketing their employee health services to the general public. Arguing the primacy of patient choice of provider and the importance of an unfettered contract between doctor and patient, the American Medical Association fought off a series of later government attempts to organize practice, ending with its successful campaign to defeat Harry Truman’s program by labeling it “socialized medicine,” an effective ploy in a rabidly anti-Communist era. Only the political power of senior citizens defeated the AMA’s opposition to Medicare in the mid-1960s [8].

In the system we are used to, we are trained and acculturated to think that we own our professions. In a sense, we temporarily rent that profession to patients when we enter into the duty of care. In turn, we rent facilities, or perhaps more accurately we are squatters in facilities like hospitals, clinics, or even health systems, to care for our patients. At no time, however, do we turn over our profession to an entity other than ourselves. There is a double rationale: First, we believe we need continued ownership so that our patients can trust our fidelity to our duty of care, unfettered by outside liens, so to speak. We promise a clear title to our services (to muddle the metaphor a bit.) Second, we need to have the autonomy conferred by ownership to respond to the needs of each patient. We must be able to assert that no contract or set of directions binds our freedom to respond to individual variations in what patients require.
Internal Accountability
This system has certainly been highly satisfactory from our point of view; it makes the practice of medicine one of the few human activities, other than the arts, where there is great technical autonomy to do what one thinks is right without a lot of argument and negotiation. Accountability in this system is almost all internal, which means that there is actually very little. Of course we are responsible to our professional societies, to state licensing boards, and to malpractice lawyers. Most of the time that accountability turns on only when we are already in trouble. We are also accountable to our patients for the elements of care that patients can judge. That, too, is important but does not really touch the middle ground between palpably bad care with bad outcomes and the top ranks of care measured by true medical miracles.

External Accountability
The downside of this arrangement from the point of view of society is the flip side of what makes it attractive to us, namely, there is very little external accountability. At least, that was the case until very recently. There are a number of areas in which we have been spared external accountability. The first is fiscal accountability. The traditional definition of duty to the individual patient was that we should prescribe everything that might be helpful. That meant that we were not supposed to consider costs in rendering care. As costs have increased, we have discovered that we have been spending money for which other people are accountable. Those other people are the purchasers of care (self-insured employers, and Medicare and Medicaid agencies) and their agents, the payers for care (insurance companies, and managed care companies). When spending money for which other people are accountable, we should not be surprised if they insist on influencing how it is spent by placing various controls on utilization [9]. They, on the other hand, should not be surprised at the rancor that their often uninformed decisions arouse in people like us, whose tacit expectation was that we would be free from external constraints in caring for our patients.

The second external accountability we have avoided is the need to demonstrate the quality of what we do to some outside group. The traditional system located quality in the values and the professionalism of the individual practitioner. When there was less to know and less to know how to do, that system worked pretty well. In the current era, which is marked by a deluge of new knowledge, new technology, and new demands on our time, including the demand to be fiscally accountable, the system has serious limitations. We have had precious little help in being accountable for quality. Until recently, there have not even been the aggregate data represented by studies of practice variability and prescribing patterns to help us determine how we compare with others. It is only recently that specialty board recertification has been a requirement, and it is important to note that in comparison to some other hazardous industries, board certification and recertification in medicine have no legal standing.

To place our traditional system in some perspective, here is another farfetched example. Suppose the airline industry were organized in the same way as health care. Pilots would be free to choose the kind of aircraft to fly, the routes to take, and the take-off and landing times. The companies that owned the planes would allow the pilots to fly them, and in return, each company would collect a fare for the trip from the passengers. There would be no requirement that pilots be certified on the latest aircraft or that they be forced to file a flight plan. After all, every day the weather is different, and there are subtle variations in the performance of the aircraft. How could anyone fly by some mandatory cookbook or checklist? Citing the importance of preserving the bond of trust between them, the pilot would bill the passengers directly. If you as a passenger were planning a trip from San Antonio to New York, you would ask your neighbors, business associates, and travel agent to suggest a pilot who had a good reputation for flying that route. You would be interested in the pilot’s on-time and safety records, but you would likely be somewhat frustrated because the Airline Pilots Association insisted that some routes and some airplanes were more difficult to fly and therefore the data were not representative of the actual skill of the pilot. Do I have any takers for this arrangement?

The point is that on the basis of our skills and our capacity to keep up with medical knowledge and technical advancements, we, like pilots, hold peoples' lives in trust. Yet surrounding our profession are few of the safeguards of quality and performance that protect us when we fly. The result is absurd conversations in which well-meaning, worried representatives of medicine talk about how to influence the culture of medicine to ensure the performance of physicians, other health professionals, and health care institutions. Should the outcomes of all physicians’ work be made publicly available as are those of cardiothoracic surgeons in some states? Can technology be harnessed to assist in the process? Or does the answer lie in a rearrangement of economic incentives to ensure quality and safety?

Managed Care
You may remember that once upon a time not too long ago, managed care was supposed to resolve many of these problems by ensuring system coordination, compliance with standards of quality, and reduction in cost. The implacable dynamics of market forces has dimmed that rosy picture. In fact, it can be argued that managed care as currently implemented has made all of those goals demonstrably worse because it has not really restructured the delivery of care; it has only laid on an additional complication. Many managed-care companies, particularly those that are for-profit, keep a tight hold on financial risk because that is where the money is to be made. Through utilization review and paying providers discounted fee-for-service, they seek to reduce cost by a combination of restricting certain kinds of care...
and pushing productivity. Consequently, physicians are forced to cut corners on time spent with patients, waste time in justifying their work, and are constantly annoyed at the intrusion on their practices. Struggling with discounted fee-for-service leaves them with neither the incentive nor the time to restructure care to eliminate waste and inefficiency. In addition, there are no incentives to get involved in prevention or disease management.

Members of the public generally like their own plans but deeply mistrust managed care in general because they are afraid that expensive, lifesaving procedures will be denied if they need them. The industry, through its trade association, continues to profess high motivation to improve care and serve the public, but it is implacably set against real accountability by fighting to defeat patients’ bills of rights, external review of grievances, and legal liability for its decisions. To their credit, many of the not-for-profit plans do share financial risk with providers, have effective grievance mechanisms, and offer programs of prevention and disease management. Nonetheless, in general, managed care has failed to fulfill its promise as an approach to improve the delivery system.

Treatment Recommendations

It is time to move from diagnostic assessment to some treatment recommendations. In doing so, I will act more like a surgeon than an internist or a psychiatrist by boldly suggesting a course of action without all of the facts that might help with the decision.

Background

First, I think that we must recognize the real source of our problems. That the traditional delivery system has failed may be more a matter of historical inevitability than simply a result of out-of-control costs or even the perverse imposition of market forces on a public good. Technological change has always driven profound social and economic dislocation. It was the swiftness of the Viking longships that extended their reach from Newfoundland to India; it was the English longbow that defeated the French knights at Agincourt and ended the military dominance of the nobility; and it was technological breakthroughs in the early 19th century that made inevitable the replacement of individual producers of goods and services by large industrial enterprises that could take advantage of new technologies in ways that small producers could not [11].

Until about 1840 in the United States there were no corporations in the modern sense. Small, independent entrepreneurs who operated what they owned conducted all business, both manufacturing and commerce. Whether they were small manufacturers, store owners, or ship captains who owned their vessels, the story was the same: there were no managers who were paid to operate businesses that other people owned. The distribution of goods was accomplished by market transactions between these independent owner-operators. Some of them were agents, supercargoes, or general merchants who took possession of the goods on their way to the final destination, but none of them were employees of large enterprises; all were independent entrepreneurs.

The picture changed dramatically around 1840. By then, cheap coal from newly developed anthracite mines in Pennsylvania had made it possible to develop factories with steam-powered machines that could turn out large quantities of high-quality goods much less expensively than could the cottage industry of owner-operated workshops. These factories began to hire large numbers of workers and a few managers to deal with the much more complicated factory technology. Steam engines, powered by coal, created the railroads, which replaced low-tech canal boats and horses and wagons. Because the railroad system was complicated and it was difficult to run trains safely at high speeds, the railroad companies had to set up tables of organization, job descriptions, memoranda, and the paraphernalia of administrative hierarchy, thus becoming the first truly modern industrial organizations. They also created a new group of professionals—paid managers who typically made a lifelong commitment to their companies. In moving work outside the home, this technological revolution brought about a social and economic revolution and created the world as we know it.

I think it is arguable that the technological revolution in medicine is driving a similar economic and social revolution in the way we deliver care, replacing individual practice with larger, more organized systems. A symptom of the need of such a revolution is the lack of accountability that our traditional medical system, a kind of cottage industry, suffers in bringing the new technology to the care of patients. In these terms, cost containment through managed care is an inadequate attempt to deal with the lack of fiscal accountability, which is another symptom of the need of reform in the delivery of care. Arguing by historical analogy, dangerous as that is, it may be that what lies ahead inevitably is more organized systems of care, which, I believe, must be created and led by physicians. Only a few years ago, that statement would have been little more than wishful thinking. Now the situation is quite different; we have had a 10-year experiment in the management of health care by nonclinical leaders, and that may be enough to convince us that there must be a better way. Moreover, many physicians, although not all, understand where we are and are rapidly gearing for battle to recapture health care. The education program of the Thoracic Surgery Foundation is an immediate example; in addition, all across the United States, physicians are enrolling in MPA, MBA, and nondegree management programs in record numbers. They are finding these programs intellectually stimulating and solid preparation to play their part as leaders.

Steps to a Cure

Having recognized the situation, what principles should physicians consider in transforming the delivery of health services, including medical services? First, and perhaps most important, we must transform our ap-
approach to health care organizations. We must nurture them as the instruments of good care rather than as platforms to support professional virtuosity. In an important study, Collins and Porras [12] professors at Stanford University, identified the characteristics of 18 corporations widely regarded as the most outstanding business organizations in the United States. To tease out the nature of success, they compared these corporations with those in the same fields that were approximately the same age and that were good but not visionary, the term they applied to their 18 exemplary companies. A startling finding was that the founders of Sony, Hewlett-Packard, and 3M set their sights on creating great corporations, not great products, and especially not great profits. Their assumption, which turns out to have been correct, was that great products and great profits would follow naturally if they were successful in creating great companies. Instead of squatting uneasily and warily in our hospitals and health systems, we need to invest ourselves in them because in my view, it is only great health-care organizations that can manage the new medical technology in the service of patient care.

I had a firsthand brush with this issue recently. The evening speaker at a meeting of the Executive Session on Medical Error and Patient Safety at the Kennedy School was Paul O’Neil, the CEO of Alcoa. He was there because he has made worker safety the organizing theme for his company. As 1 of Alcoa’s 100,000 employees in some 20 countries around the world, a person would have to work for 700 years before losing a workday because of an accident on the job. The aim of O’Neil is to reduce the rate farther so that an employee would have to work for the company more than 2,000 years before losing a day. Over and over in his presentation, O’Neil intimated that he seeks to make a great company that engages the passion of its 100,000 workers through a host of measures, including worker safety.

In terms of my focus on accountability, it is significant that early in his administration of the company, when an 18-year-old worker was killed in an accident in one of the plants, O’Neil announced to his executive group: “We killed that young man, and we have to make sure that we learn from that accident.” By that statement, he held himself and his executives accountable for worker safety throughout the company. The result is that any time even 1 worker day is lost because of an accident in any plant, the accountable manager is required to report what he has learned from the incident to all of the plant executives during a weekly worldwide company telephone call. Pursuing the great-company idea, O’Neil refuses to calculate what the company saves in compensation claims from its worker safety program. A great company cares about worker safety because it is the right thing to do.

Second, in creating a new system, we must pay attention to the arrangement of incentives—financial incentives in particular, but others as well—especially the kinds of relationship incentives that have always made careers in medicine satisfying. We have been taught by our society and during our training that competition brings out the best in people and in organizations. In some ways that is true. Surprisingly, Built to Last [12] carries a slightly different version of that truth. The visionary companies described there compete vigorously—with themselves. They compete constantly with themselves to improve, as measured against their own internal benchmarks. Getting better at what they do is the best way to succeed in the market. Too much preoccupation with external competition may be fatal. Boeing, one of the visionary companies cited, is in deep trouble now because it was fixated on competing with Airbus, the chief international rival. Boeing was highly successful in winning so many orders that the company exceeded its internal production capacity, and now Airbus has recaptured many of those orders as a substantial number of customers abandon Boeing.

There are powerful incentives for individual practitioners in the fee-for-service system to compete for patients in limited medical markets. And, of course, there is the old joke that academic competition is so bitter because there is so little at stake. What underlies the joke is the fact that reputation and self-esteem are at stake in professional and academic organizations, and those are infinitely more sensitive than money. I had lunch the other day with a cardiologist who took last year off from his successful practice to get a degree at the Kennedy School. He now has an interesting job with a large pharmaceutical company, his first time in industry, and he is a happy man. He said that the most striking thing to him about working in industry is the way in which incentives support collaboration rather than competition. If any member of his group does well, he does well, both in terms of his evaluation and in terms of his compensation. If his division does well and if the company does well, the story is the same. He remarked on the absence of one-upmanship or of feeling diminished by someone else’s success in presenting a paper at a professional meeting, for example. Making a new health-care system will involve some version of the same idea, that is, that the success of individuals should depend on the success of the group.

We need to create incentives to promote health as well as treat illness. That is what the large purchasers of care want from our health systems. Increasingly they view their workers as their major capital asset. That is a result of the move from manufacturing to service and knowledge industries. In the classic heavy-manufacturing industries, workers were there to amortize the huge investment in large machines. What they did was mostly grunt labor, and they were easily replaceable because their skills were relatively easy to learn. Today, even in manufacturing, the work is organized to capitalize on worker skills. In the electronics and computer industries, it is professional expertise that is the key to success in the market. That creates powerful economic incentives (even in companies that are not so great) to provide services to keep workers healthy, satisfied, and on the job. The old fee-for-service system had few incentives to engage in prevention or health promotion. In fact, there were disincentives because the indemnity insurance system was arranged to pay for the care of more serious illnesses,
and time spent on prevention was paid for, by and large, out of the physician’s pocket.

We also need incentives to enhance the relationship aspects of care. A recent study by the Arthur Andersen consulting firm [13], supported by public attitude surveys by Daniel Yankelovich, finds that patient satisfaction and staff retention are the essential elements of health care, but the industry fails to invest adequately in either one. According to the study, the health care industry fails to understand that its core business is not just applying technology; instead it is a web of relationships among patients, providers of care, families, purchasers, and health organizations that lies, as the study put it, “at the intersection of where we live, work, and profit.” Interestingly enough, the author faults the way in which health organizations account for their assets. Standard accounting procedures used by health organizations were derived from traditional industrial models in which tangibles like buildings, machines, and real estate are regarded as assets, and employees are regarded as expenses. The Andersen study asserts that it is the knowledge, skills, dedication, and attitudes of employees that are the real assets in health care. So the study created a new measure of value that rests on four classes of assets: financial, physical, employee, and customer. These replace the old system and imply a radically changed structure of investments and incentives to maximize the worth of these most important health-care assets. The implications of this system are startling and range from offering employees economic partnership with the organization to restructuring care systems so as to enhance the ease with which patients can receive care. The discounted fee-for-service system erodes the time necessary to do a thorough job and in the process, to enhance the patient’s trust.

Finally, we need incentives to improve quality. These are closely related to professional accountability and to technical assistance of the kind that is now available through information systems and as the result of human-factor studies in other hazardous industries. Those studies suggest that quality and reliability of performance rest on simplification, standardization, and a variety of technical backups and aids that can free professionals from routine tasks. It is interesting, even alarming, that artificial intelligence and automation can free us to exercise our uniquely human capacities to integrate data and respond to the unforeseen, I share a warning that I heard recently in a conversation with David Woods, who is a human-factors researcher, a professor at Ohio State University, and an expert consultant on airline safety. We were discussing this very issue: how automation might help physicians. According to him, the problem is that it is very easy to program computers to be automatic, totally reliable, and quite skilled at performing certain functions. What is difficult is to get them to be cooperative, that is, to interact easily with humans. He asked, “Do you know what is the most common conversation in the cockpits of commercial aircraft?” After I said, “No,” he replied, “It is: ‘What is it doing now? Why is it doing that? What is it going to do next? How can I get it to stop?’”

The Future

On that chilling note, I will finish by sketching quickly the system characteristics that I think are implied by these considerations. In this, I am borrowing some of the very creative thinking of Dr Paul Uhlig (personal communication) as he seeks to create a new system of care in Wichita.

The new systems of care should be integrated, combining ambulatory facilities with hospitals and long-term care facilities. They should be population-based, that is, the unit of planning for care should be some population group, usually defined geographically but not necessarily always. They should be sufficiently large to justify a strong component of specialty care, but small enough to provide collegiality among peers and access to care for the community. Funding of care should be by some form of capitation to provide incentives for prevention and health promotion and incentives to keep control over costs by reducing waste and enhancing quality, which is the best way of saving money. The group, not individual practitioners, should handle the financial risk, and the group should be large enough to be fiscally responsible. There should be linkage among practitioners through effective information systems to promote the best practices, to ensure accountability for those best practices, and to keep up with the latest advances in care. There are likely other characteristics that should be included, but this is a start.

In terms of the title of this presentation, it is medical leadership that should create these systems and that should be in charge of them. To do that, we physicians must learn the elements of health policy and business. We must train ourselves to function in modern organizations in which collaboration, cooperation, and learning from colleagues at all levels of the organization replace the old hierarchical command and control structures. Those structures are no longer viable even in production industries, and they are rapidly being replaced in the organizing of highly professional knowledge and relationship industries like health care. We must prepare ourselves to lead in such organizations; to do so, we have much to learn and much to unlearn. I am delighted to report that at this Annual Meeting of The Society, I have
heard about the beginnings of such organized systems being developed by your colleagues. That reassures me that we are in good hands and that the future of health care is very bright.

References