

J. Joseph Marr, MD

The author (A Ω A, Johns Hopkins University, 1964) is a retired academic physician and business executive. He is a member of the editorial board of *The Pharos*.

Illustrations by Jim M'Guinness.

as there a certain time when it happened? If so, probably the inflection point occurred in the nineties when business took over formally. That was a watershed series of events, surely, but the full process seems to have been more like death from a thousand cuts, some self-inflicted. Whenever it occurred, the transformation of the physician during the second half of the twentieth century from shaman to skilled labor was inexorable and, in my opinion, will prove to be irreversible.

All of us who were active in medicine and medical science during these years

played a role in its transformation. We were troubled—and then horrified observers, yet often more than a little complicit. Hubris had much to do with it, and all of us were culpable to varying degrees. Is medicine today better, worse, or just different? Does it matter? Perhaps not so much to people born in the late twentieth century, but it matters much to those of us who practiced medicine and loved it during the last half of the last century.

To answer this question with any hope of perspective, it may be valuable to consider the issue as having two components: the evolution of medicine itself and the effects of that evolution on the physician practitioner. The changes in the institutions through which medicine is practiced, important as they are to our current situation, will be treated as a concomitant and parallel sideline. Permit me to be an observer and guide here and use some of my own history to illustrate. I do not think of myself as Virgil, but rather as a fellow traveler. The comments and illustrative experiences I use are, within broad limits, common to us all.

A brief case history

Those of us born in the late 1930s or very early 1940s entered medical school in the later 1950s or early 1960s. It was a time that I have heard described as "a Golden Age of Medicine." A golden age, of course, is relative to the observer. We were at the top of a revered profession dedicated to the care of others and almost solely responsible for the management and delivery of that care; on the other hand, that care was very unevenly distributed and closely related to ability to pay. The physician was priest and seer; his opinions were respected, given great credence, and sought in areas outside of medicine. He was a scholar in the broad, liberal-arts sense of the term. He was the alchemist who understood science, and he knew the workings of the human body and psyche as well. He was a shaman at the end of the age of shamans. It was like that.

Two things happened in 1961, when I was a sophomore in medical school, that were to some degree prophetic. I recognized both of them as being significant, but did not see that they were harbingers of the future. An article in the Journal of the American Medical Association chronicled a study of the interpretation of chest x-rays read both by radiologists and by a computer. The two methods were about equally accurate. The conclusion was that computers were no better than radiologists. My conclusion was that the radiologists were doing the best they could and the computer was learning and would do better as time went on. The other event was a conversation with some physicians about the management of hospitals. I wondered if physicians should not be managing hospitals themselves since they knew more about patient care. The response was that physicians could hire people to do this; the medical staff actually ran the hospitals anyway. Yes, I thought, but actually we work for the administrative organization. For years afterwards, physicians who recognized this disconnect and went into administrative medicine were considered, quite unfairly, as simply unfit for practice and their real importance not credited. Where did that lead? Look around.

Hubris

There was considerable hubris among physicians in this time. We had social status, financial rewards, and the gratification of playing an important role in our society. Did this play a role in the changes in medicine? I believe so. A "cottage industry," as medicine of the time rightly has been called, had no incentive to look at the larger social picture, nor the mechanism to introduce change had it wished to do so. The revolution of biotechnology and biomedical engineering as applied to the physician practitioner could be compared to the industrial revolution and the cottage industries that it eliminated. No one saw it coming: a computer reading a chest film caused no alarm. Physicians devoted

their time to patient care and paid little attention to the institutions in which the care was delivered unless there were obvious issues of neglect or mismanagement. They also paid little attention to patients themselves beyond the office or hospital visits. The problem of health care delivery to the medically indigent was left to municipal hospitals, charitable clinics, and the free care provided by many medical practitioners. The fact that these municipal hospitals served sometimes as superb training facilities abetted the situation. Management and planning of indigent care largely was left to those who tried to respond to medical-social issues from a background of social work, law, or politics. These are general statements-there were physicians and physician groups that recognized the problem of delivery of care-but the emphasis remained on fee-for-service with some charity care done.

The "threat" of Medicare and Medicaid in the 1960s caused much of organized medicine to react strongly against governmental intrusion into medical practice. In particular, the American Medical Association (presumed to be the spokesperson for physicians generally) lobbied against any changes in the fee-for-service practitioner model of medical care. The specter of socialized medicine was raised whenever any governmental changes were proposed, but no alternative solution to the problem of the uninsured and underserved was put forward. When Lyndon Johnson brought Medicare and Medicaid into law in 1965, two things happened among physicians: first, outrage-there was much talk of "socialized medicine" and the downfall of the private practice model. Practice nevertheless went on as usual, although with the realization that a major event had occurred, the consequences of which were yet to develop. Second, the slow realization that the medical care physicians had been providing gratis now would be reimbursed by the government. Predictably, opposition softened. We gradually came to tolerate, and then love, the beast. The words from Alexander Pope's *Essay on Man*, intended for other situations, were never truer:

Vice is a monster of so frightful mien, As, to be hated, needs but to be seen; Yet seen too oft, familiar with her face, We first endure, then pity, then embrace.¹

Expansion of the medical care system

Those of us new to medicine in 1965 paid scant attention to these changes in the payment system, as there were internships and residencies to deal with. The familiar operational chain remained solidly in place: physician, nurse, and patient. Physician extenders had yet to make a significant appearance. There were technical personnel in hospitals and clinics to be sure, but they provided ancillary services in laboratories and radiology and not direct patient care. Surgical technicians were new, and, by and large, registered nurses filled these positions.

Then there was Viet Nam. For those of us who became part of the military, a world opened with a life-changing array of new experiences and considerations. Among these were physician extenders of many sorts (I use this term a bit loosely to make the point of the various forces that would come to bear on the delivery of medical care after that war): medical corpsmen who, though narrowly trained, were many times quite good at what they did and often took serious risks to do their jobs; technicians who performed a variety of tasks that simplified the work of physicians (some of these positions existed in civilian medicine, but not to the degree that they were employed in the military); helicopter medevac pilots greatly improved survival of the wounded and would apply their skills to air ambulances back home.

One thing about these workers was overlooked: not only did they do procedures generally reserved for physicians

in the civilian world (start IV fluid or blood infusions; some surgery to prevent or mitigate larger surgery later), they also made the decisions to do so. Slowly it became clear that nonphysicians who had some training could make these decisions. This had started with the corpsmen in World War II, and expanded rapidly in the Korean War, but it came into full flower in Viet Nam. And unlike the situations after the former wars, these people came back home to a social milieu needing ways to lower costs while providing more care to the underserved or ignored. They began to fit into medicine and alter its practice. The expansion of the medical care delivery system and the dilution of the physician's role had begun in earnest. A very few years later, the paramedic appeared, as early studies of firefighters in several metropolitan areas showed that such a rapid response system could save lives. The delegation of immediate care outside of hospitals and physicians' offices had begun.

My time in the military gave me a grudging and then wholehearted appreciation of the skills and enthusiasm of corpsmen. Diagnosticians they were not, but they were doers and rather good at it. This was not new, but it was to me and started a line of thought about medical care extension and a reexamination of my reference frame that would become useful several years later.

Later, as a medical resident, I wrote a prescription for a new antihypertensive medication for a lady in the clinic at a city hospital. Because of military service and graduate school interludes, it had been a few years since I had been an intern, and new medications had appeared that I wanted to try. She thanked me and went away. About an hour later, she reappeared and dropped the prescription on my desk with the comment "I can't afford this." This, of course, destroyed my plan of treatment and waved a large flag in my face. We reworked the plan using some older and quite generic medications that cost very little. I managed her for a long time using those generics; drugs had changed but physiology had

not. I began my slow, yet steady, appreciation of changing medical economics and the disparity of medical care in our society.

Later, in the early 1980s, I was Chief of Medicine at the same metropolitan hospital and needed to conserve the time and energies of my medical residents. They could not manage seriously ill inpatients and a large outpatient clinic population without loss of quality of care and exhausting themselves in the process.

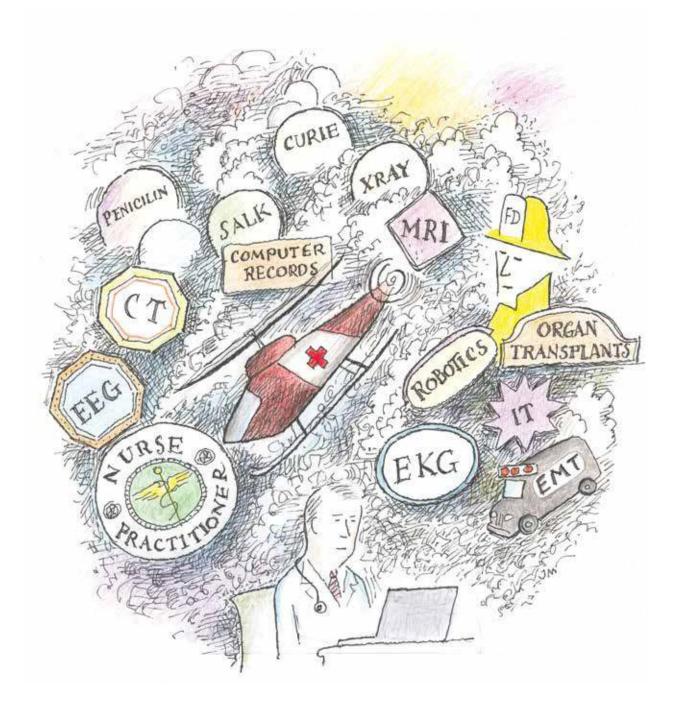
The solution was to staff the diabetic and hypertension clinics with nurse practitioners and a single supervising medical resident. This freed about five house staff from each clinic to manage in-patients. The nurse practitioners were knowledgeable, anxious to prove themselves, and very popular with the patients, since they spent more time with them than the house staff was able to do. It was surprisingly popular for all concerned, and bitterly opposed by the medical staff.

There was an additional, timeconsuming issue: a medical resident was expected to read all the EKGs for the hospital. This was not a teaching exercise, it was a billing exercise for the hospital. The solution came in the form of a new EKG machine that read the results itself. It eliminated all normal readings; the abnormal tracings still were available for teaching purposes. This was the information technology equivalent of the computer-read chest films of fifteen years earlier. The time saved for the house staff was considerable. This time, the obvious was clear to me.

These small but important changes, instituted to provide good medical care in an overused and understaffed environment, were harbingers of changes in medical care to come.

Changes in diagnostic methods

At about the same time, the auto analyzer appeared in clinical laboratories and began to turn out reports with twelve and then twenty-five biochemical tests on small amounts of blood. It was



a wonderful advance and was the leading edge of the entry of technology into medical care. Many advances followed and were woven into the standard of care. The unanticipated concomitant was significant overuse and overreliance on these in lieu of clinical judgment. They also were used increasingly as defensive medicine and raised the cost of care not insignificantly. The device armamentarium, now much broader, more accurate, and more rapid, has improved medical diagnosis by making it more accurate and efficient. At the same time, it has raised the cost of care, probably has decreased clinical acumen, and has made medical care a bit more like that in *Star Trek*—impersonal, yet efficient and effective—and less like that provided by the beloved family doctor. Patients received more time, sympathy, and personal care from the latter but who would go there again? These improvements carried a price and that price was in cost, the strength of the physicianpatient relationship, and the effect on our national economy. The physician's arcane diagnostic knowledge gave way to technology based on science. We slowly became recipients of technical information and were on the road to becoming skilled labor.

The entry of business into medical practice

As the cost of care became an

increasingly visible issue, there was agitation to "do something about it." The practice model was essentially the same as it had been for hundreds of years, even though group practices had begun to deliver care with more efficiency. Within medicine, there was unrest because the ability to pass a device of some type into the body garnered significantly more income. This led not only to specialization but also to increasing numbers of physicians migrating to more lucrative specialties and the proliferation of sub-specialties. This became a particular issue within academic medicine, where some divisions tended to operate at a loss while others had comfortable profits and often did not care to share them. The pressures to increase clinical revenue burgeoned for those specialties that did not have a financial gimmick (forgive the word, but is appropriate in this context).

Into this, in the early- to mid-1980s, came two major events that would change medicine forever: first, payment according to Diagnostic Related Groups (DRGs), the lynchpin of various payment changes to come from both the government and the insurance industry. The major tool for the savings that would come from this was to be the more efficient management of physicians and their methods of practice.² The second change was the business management people who appeared with the promise of instituting efficient "business practices" that would lower the cost of care. The increasingly incestuous relationship between the insurance industry and business conglomerates that managed ever larger and increasingly voracious "health care delivery" systems was the vehicle that ejected medicine from its delusional world where the doctorpatient relationship still was paramount and hurled it into the arena where quarterly earnings increases were the only thing that seemed to matter. These altered forever the nature of medical care and made it health care delivery. The physician now was definitely a mere employee of a system.

A little more case history

It was 1986 when DRGs appeared at our hospital and the sky began to darken. Raising fees for extra work was no longer permitted. In response, it was decided that if a patient was in an academic medical center, then, by definition, he or she had a complex problem and we were to bill accordingly. Hospital rounds were no longer just about patient care but also about spending time to be sure the chart reflected the weighty thinking that justified the top level of billing for the visit. I did this for a while and then realized that the flow of teaching rounds had been completely subverted by the documentation process. The chart had been well documented before, but now the quantity of words became as important as their quality. Consequently, I made two sets of rounds. The first was teaching and therapeutic rounds with students and house officers and fellows: then, a second set alone to do the additional notes and form checking that justified the billing. This, of course took more time-it probably cost me an additional hour or more each day when on service-but it led to better teaching. As a physician in academic medicine, the pressures of time were not those of physicians in private practice, but they still led to longer days and a definite feeling of being disingenuous regarding the billing situation. I felt I could not justify billing at the highest level all the time and backed down the charges as patients recovered-I heard about it more than once from those concerned with revenue flow.

There came an afternoon in the clinic when I was talking with an older clinician. He looked upset and finally looked at me and said: "Dammit, Joe, I am not a Health Care Provider, I am a Doctor." We talked about that and the directions of things for a while and then we both returned to providing health care.

Barbarians at the gates and everywhere else

It was during the 1990s that medicine fell increasingly under the sway of what are termed good business practices. Although a "cottage industry" could not change the system, a business organization with its hierarchical structure certainly could, and did. This led to our current situation, in which physicians who once tried to remain independent are rushing into the waiting arms of various health care provider organizations.

Each stage of the weakening of the physician-patient relationship came about gradually, as physicians were required to increase patient visits per unit time, accept lower reimbursement for these visits, vie with insurance claims adjustors for compensation or the right to carry out diagnostic testing, immerse themselves in relative value arcana to maximize the earned reimbursement, and, in general, devote more and more time and psychic energy to defending the citadel of traditional medical practice against an onslaught of accountants, middle managers, directors, and executives. Individual practitioners or small group practices now are less and less able to withstand the pressure to sell their practices to local or regional health care for-profit organizations. The entrepreneur increasingly becomes the employee. We have come to this: the selling of our patrimony to philistines because there is no other choice. The world does end with a whimper.

The remains of the day

If one looks at the cost in the United States to deliver health care relative to the rest of the world's countries, we are in trouble. We know that. If one compares this cost with life expectancy, the picture is even worse. We know that as well. The United States spends about \$4500 per capita for a life expectancy of about seventy-seven years; Cuba, to pick only one of many countries, spends about eleven percent of that for the same life expectancy.3 Our delivery structure is inordinately large, cumbersome, laden with a variety of profit centers, and burdened with regulations for both provider and patient alike.

The shift, in our lifetimes, from

individual and small group practice to institutional medicine was not necessarily bad. There are many instances of improved efficiency and better patient care. Kaiser Permanente, one of many notfor-profit health care delivery groups, has done well in caring for patients at a reasonable cost. Size is not necessarily a negative factor. Coupling medical care to the profit motives of health care companies and insurance organizations, however, has altered the focus of medical practice from patient care to patient care at the lowest possible cost to the caregiver organizations and payers. The intrusion of these companies into the practice of medicine to bring costs to an optimum level certainly is appropriate; demanding some discipline from physicians to be as efficient as possible and to conserve resources also is a reasonable request. Interfering with good medical care simply to cut costs is not.

I remain convinced that until the profit motive is purged from medicine read quarterly earnings increases and insurance profits—all talk and action to improve our health care system will be of little or no benefit. One need only look at health care systems around the world, each with its own inefficiencies and abuses, and note that the general opinion of consumers is that their country's system is good and benefits all. All of these health care systems are essentially not-for-profit models operated by governments with physicians as employees.⁴

But look at the system from another perspective. Set aside for the moment the ineptness of the creation of the Affordable Care Act (ACA), its faultridden introduction, and the new burden on our economy. These are not small issues, but they are temporary and, with some difficulty, will be overcome in the short term. The Supreme Court decision to uphold the ACA, the failure of the government shutdown in October 2013 to alter or rescind the ACA, and the general acceptance of the ACA by much of the public, all ensure that it is here to stay in one form or another. It will provide more health care, the care will be more affordable to people individually, there will be more preventive medicine, and, probably more emphasis on behavioral change to bring about healthier living. While it will not be the type of care that many of us recall, ultimately it will be a system that provides care to people who now cannot afford it.

Spend some time talking with younger people who know little or nothing about medicine of thirty or forty years ago. They are quite willing to accept governmental intrusion if it allows them to save for their children's education. They understand that visits for care are brief and the physician is harried, but it is the system they know. The other thing they know is that they can afford it. The public is indifferent to how the physician feels; it just wants a system that provides affordable care.

Coda

Let us set aside the monster of the delivery and payment systems and look at the resultant of these fifty years with respect to medicine itself and physicians. Having reviewed some specific examples expanded into the general, we can see the changes that have occurred. The result is a complex body of knowledge that has given patients access to an everbetter level of scientific medicine: earlier diagnosis and treatment, fewer and less invasive procedures, telemedicine, the tailoring of therapy to genome structure, use of genomics to manage probabilities of diseases, better prenatal diagnosis and therapy, new applications of robotic surgery. Regenerative medicine will provide new tissues and, ultimately, new organs. Medicine is unquestionably far better than when we began. We do things now as a matter of course that were undreamed of then. Patients are much better off now. What else would one expect after half a century?

On the other hand, the straight line of physician-nurse-patient is gone and will not recur. An increasingly complex therapeutic system requires an increasingly complex variety of providers. The physician is only one of these. The physician will become-has become-decreasingly the guide and guardian of the system and more of a supervisor in the mosaic of provision of care. I feel that we have lost something very important; physicians younger than I are not so sure. Perhaps we are looked upon in the same way we looked upon the family doctor of another era. He was beloved, honored, respected, and he gave of his time and energy unsparingly. But he did not cure as many people as we did. Those who have come after us are just as intelligent and competent but have more knowledge and tools and are curing more people than we did. Good medicine persists. It is our model that is gone; another has taken its place.

The physician remains; he or she practices differently. We still play an important and essential role but it will be increasingly supervisory. Can you imagine a physician supervising a cadre of physician assistants or nurse practitioners in lieu of individual family physicians? How about a surgeon managing several operations performed by skilled technicians or robots? I can imagine all of these. In our own minds, we have been marginalized; in the minds of patients, we still are here. We remain very much in the game. Our problem is with the intangibles; we lost the spotlight.

References

1. Pope A. The Poetical Works of Alexander Pope. New York: Thomas Y. Crowell; 1896.

2. Eastaugh SR. Managing risk in a risky world. J Health Care Finance 1999; 25: 10–16.

3. University of California, Santa Cruz. Health: Global Inequalities in Health. http:// ucatlas.ucsc.edu/health.php.

4. Reid TR. The Healing of America: A Global Quest for Better, Cheaper, and Fairer Health Care. New York: Penguin Press; 2010.

The author's e-mail address is: marrj@ mho.com