

A Reflection

On

Medical Practice

A Fifty-Year Perspective

By

Victor Keyloun, M.D. M '60

172 Village Road

Manhasset, NY 11030

The Georgetown Medical School Class of 1960 celebrates its fiftieth reunion this year. Undoubtedly the reunion will be a time for reflection, a time to recollect how our graduate education prepared us for the unprecedented discoveries that have improved the lives of countless millions throughout the world. Fifty years provides a perspective that allows for a critical assessment of the remarkable changes in medicine and medical practice. The reunion will also be a time to debate the social and political forces that have altered the practice of medicine. All would agree that the profession has been under assault on many fronts by many forces.

For those who have survived to mark this special occasion, the milestone shall be appropriately celebrated. For those who are deceased, a prayer will be offered for their repose. All will have private thoughts wishing that our deceased classmates could have reveled alongside. Most of us have transitioned from dispensing care to receiving it. As patients we have witnessed the transformation of medical care. The relationship between doctor and patient in some quarters has become contentious bordering on adversarial. One can only imagine how we will fare in the coming years.

The progress in medicine during the past half century has been nothing short of astounding. The accelerating complexity and dynamic of delivering medical care presents a daunting task for the educators of tomorrow's physicians. The burden of modifying curricula to keep pace and meet the needs of society challenges the ablest faculty. The challenge for today's student is equally daunting. Students are challenged in ways that were unheard of just a few years ago. Medical practice has morphed into an art that is totally unfamiliar to the graduates of past generations. Its future is uncertain and any attempt to prognosticate its direction is a specious exercise. However, prognosis is part and parcel of what we do as physicians, but we can't presume to know where we are going unless we know where we have been.

The curriculum we pursued fifty years ago was flawless because the education we received and the journey we have taken has served us well. Our generation kept pace because our pedagogic foundation was sound. The scientific fundamentals of medicine are as immutable as granite. Alternatively, the art of medicine has been subjected to countervailing social, economic, and political forces that threaten the fabric of a noble profession. Our generation lived through it, adapted and, for most of us, has retired from practice. The class of 1960 graduated one hundred doctors of medicine. There was but one woman in our class and that was not atypical. The class of 2010 has 198 students enrolled of which 102 are women. Across America the number of women enrolled in medical school approaches 50%. The landscape has changed and a measure of equality has been achieved. At least, numerically.

Our class fared well by any standard. We had among us Department Chairmen, Chiefs of Service and Chiefs of Staff. We had inventors and entrepreneurs. We had Directors of Medicine at the top tier pharmaceutical companies. Authors of texts and clinical papers abounded. There were also consummate surgeons of every stripe, preeminent

psychiatrists and superb clinicians immersed in the care of the sick. All carried on the time-honored tradition of teaching both in the classroom and at the bedside.

We were blessed to have attended college and medical school during the fifties, a time considered to have been the golden decade of the twentieth century, when a benevolent Dwight D. Eisenhower was President of the United States, when life was serene and the world was at peace. A few seemingly insignificant events marred our social complacency; the United States sent military “advisors” to Viet Nam, the Soviet Union launched Sputnik and Fidel Castro overthrew Fulgencio Battista in a coup d’etat. These three seemingly innocuous events changed the course of history. Students today study during an era of constant war, economic chaos and a reimbursement system on the verge of collapse. Solo practice has all but disappeared. The socialization of medicine is nearly complete and the only question remaining in doubt is the form it will take. The attempt by government to control medical cost is an experiment in progress. Yet, those attracted to the practice of medicine remain motivated by a desire to serve. Medical educators bear the responsibility of producing competent physicians and simultaneously providing a framework to deal with the breath taking and inevitable progress that lies ahead. If past is prologue the anxieties of medical students must be unfathomable.

The science of medicine has evolved and the art of medicine morphed to meet the demands of society, government, and insurers. By reviewing the past, today’s students and society at large can appreciate the enormous strides that have been made. They can assess how the profession has been obligated to endure modification and decide if the trajectory is in society’s best interest. Our medical education was directed toward the time-honored tradition of establishing a personal relationship between a doctor and a patient. The financial relationship was based on a simple formula, a fee for a service. In many quarters it was a sliding scale where the wealthy paid a little more and the needy were seen for a reduced fee. It was thought to be an immutable tradition. The former head of the Health and Hospital system recently stated that it was imperative to scrap fee for service and base reimbursement on outcomes¹. The question arises as to who will determine what those outcomes should be and whether physicians and hospitals will be financially punished for the non-compliance of their patients.

Today’s graduating doctors are obligated to ban together in group practice merely to survive the tsunami of paper work and the endless forms for reimbursement. The financial debt of many new physicians obligate them too seek employment rather than establish a private practice. Interchangeable doctors in group practice share a patient’s personal information as they care for the sick. If the promise of electronic records does in fact reduce cost it will also pave the way for our most intimate secrets to be stored in cyberspace subject to inspection by government, insurers and available to computer hacks despite laws enacted to protect privacy. It is entirely conceivable that our DNA will be accessible on a Google search. Fees are now set arbitrarily by agencies that bear no personal relationship with its insured. Nor do they factor in the investment of time required to make critical decisions. Intermediaries make life-altering medical decisions and not physicians who bear the responsibility. The relationship between doctor and patient was once intimate and personal. We now rush headlong toward personalized

medicine where at birth our DNA can foretell what disease looms in our lifetime. It is frightening to imagine that tests can be performed to serve as a basis for maintaining a pregnancy or terminating a fetus. (A pre-term blood test to diagnose Down's syndrome may soon be on the market). Happily, there is genomic discovery and the prospect of therapy that was once only a glimmer in the minds of pioneer thinkers. Its affordability remains in question.

We have come very far in our endeavor to eradicate disease and minister to the sick. When once kidney failure was a death sentence we now see people kept alive in relatively good health by dialysis and the wonder of biotechnical medicines. Smallpox has been eradicated, yet other microbes and viruses have emerged that threaten the fabric of society. A fractured hip once meant a prolonged hospital stay and an unacceptable mortality rate. We now have artificial replacements for almost every joint in the body and medicine to treat the underlying bone disorder. We have artificial limbs that function almost as well as the original. There was no effective treatment for hypertension when we entered medical school. Hydrochlorothiazide was launched in our junior year. We now have dozens of options from which to choose to tailor our treatment. The grotesque surgeries for peptic ulcer disease have been relegated to the scrap heap of history by simple medicines. We have advanced from iron lungs for poliomyelitis to heart and lung transplantation, from exploratory laparotomy to robotic laparoscopic surgery.

The list of milestone achievements is long. Our curriculum prepared us to implement the wonders of medical science. The student of today must prepare for being physicians of the future. We came to school armed with a monocular microscope. Today's student arrives with a laptop computer and an Internet service provider. A hand held device can keep a physician in constant contact with the world's medical literature.

If the past and the present are viewed as two points on a graph, can we plot the trajectory toward the future? Could we in 1960 have foreseen what is happening today? And if so, can a student embracing today's curriculum see the future of medicine. Curriculum is defined as a group of related courses of study offered by an educational institution. Its Latin root is *currere* meaning to run. The word current enjoys the same Latin root and is defined as belonging to the present time. Taken together a curriculum is likened to running a race. We begin the race in school and maintain the pace throughout our career. Clearly, it is not a sprint; it is a marathon.

By and large physicians in private practice taught our generation. They established the curriculum for the class of 1960. They fashioned it to deal with the diseases they had encountered in their office practice or the ones they encountered during the Second World War. There were many full-time employed educators predominantly in the basic sciences but it was the practicing physicians who set the tone for the clinical years and determined what needed to be taught. There were very few who were engaged in research. The Shattuck lecture of 2006 suggested that one cannot be both a competent practicing physician or researcher and serve as a good teacher. The analogy to the punter or place kicker in football as a specialist was employed to support the contention that only teachers grounded in the science of teaching can be educators. Further, there was the

observation first proposed by the Flexner Report that the basic science years and the clinical years were disjointed and non-seamless. Our professors would have taken exception to this observation. We were taught by clinicians to be clinicians.

The frame of reference for the Georgetown faculty was World War II. Many physicians had served their country and witnessed or participated in the marvels of medicine that emanated from the conflict. Upon their return to civilian life they established or resumed a private practice. They also lent themselves to educating future generations of doctors. The focus of our curriculum was to prepare us to enter private practice. Physicians of our day conducted an office based solo practice and also attended their patients when hospitalized. No one can dispute that the landscape of medical practice has changed and is all but unrecognizable from the post war era. The morass of paperwork mandated by all third party payers has forced physicians to join together in groups. The “hospitalist” movement has all but relegated primary care physicians and internists to an exclusively office-based practice. Surely, the training and education for the care of patients in a hospital setting is far removed from that required for dealing with less life threatening illness.

Had anyone been astute during our education they would have recognized that the seeds of pre-paid and group health care were sewn during the war. What they may not have appreciated was the rapid appearance of its clones. The Kaiser Shipyards, for example, provided health care as a perquisite of employment. Rather than pay the fees of local physicians for his ill or injured employees, Kaiser built his own hospital and clinic. The expense for the company was minimal while the benefit to the predominantly female employees was considered extraordinary. Since men were conscripted into the military the work force was by and large young and healthy. The care that was provided by salaried physicians was basic. It was also centralized. The war ended but the health system lived on. The model was transformed into a pre-paid health plan. Kaiser-Permanente remains as the forerunner of prepaid group health care, the first Health Maintenance Organization. Not to be out done, large unions around the country soon lobbied for the same benefits. Steel workers, miners, and auto unions soon enjoyed the benefits of health care paid for by the employer as a perquisite of employment. It did not take long for the unions to lobby for these benefits to extend into retirement. Unlike the Kaiser plan most union health plans paid the reasonable fees of physicians in private practice. It was not long after that the fee structure was arbitrarily set so that any physician willing to participate had to abide by the insurer’s standards.

It is unlikely that the faculty that created our curriculum at Georgetown Medical School could possibly have imagined the juggernaut that would be pre-paid health care and the alphabet soup of insurance programs that have ensued. It is equally doubtful that anyone practicing medicine today can imagine what form will emerge five or ten years hence.

The force that dominated the structure of our curriculum at Georgetown belonged to Dr. Harold Jaegers. The principles he developed were based on a system of questions. The fundamental question was one that established the patient’s chief complaint. Once clearly defined the student developed a history of the present illness. This was followed by a

social history, a family history and a review of systems. The questions were enumerated in a pamphlet and in our early training we were required to ask each and every question and record its answer in a “work up” of a new patient. It was, to be sure, a tedious 20 page written exercise. But the learning experience was invaluable. The philosophy underlying his methodology was simply put, “Listen to your patients; they will tell you what is the matter.” The idea was to establish a working diagnosis before any test was ordered. Tests were considered confirmatory exercises. How differently it is today!

The Jaegers template necessarily impacted how the basic sciences and clinical clerkships were structured. Only a limited number of our clerkships were at the University Hospital. Most were conducted in the suburban hospitals surrounding Washington where we were introduced to every strata of society. There was Arlington General Hospital, D.C. General Hospital, Bethesda Naval Hospital, and the many Veteran Administration Hospitals such as Mount Alto and Walter Reed. Wherever our clerkship took us the same basic formula for taking a history was employed. Whatever service to which we were assigned, be it medicine, surgery, OB/GYN, pediatrics, or psychiatry, the Jaeger methodology prevailed.

No fault could be attributed to the Jaeger legacy because the graduates of our class and the classes that were influenced by it excelled in their residency programs. They became consummate clinicians. Every residency program in America welcomed Georgetown graduates eagerly. Georgetown produced the finest clinicians in the world. The fundamentals of our four-year curriculum were sound. They served their purpose well, assuming that the purpose was to produce a caring, knowledgeable, practicing physician who could diagnose and treat the most esoteric diseases. However, scientific progress is inevitable. The needs of society change. Society itself changes as does the government and its perceived function in society. Medicine is under assault on many fronts. Its justification is debatable. No curriculum is immutable. It must adapt, as students must also accommodate to the changing values of society.

The forces that have altered the landscape of medicine include:

1. Scientific progress
2. Government intervention, and
3. The expectations of society.

Hidden among them is the specter of malpractice that has intruded as no other destructive force in the conduct of medical practice. A brief review can be illustrative.

Scientific Progress

During the past fifty years the world and medicine has been transformed from analog to digital. The digital world has given us computers. Without them we would not have magnetic resonance imaging, nor would we have computed tomography or PET scans. In our physiology laboratory we boasted that we could perfectly smoke a kymograph drum. Today, a neurosurgeon can precisely place an electronic probe in the subthalamic nucleus. We boasted that by carefully listening to a heart with a stethoscope we could detect a diastolic rumble. An echocardiogram today depicts not only the exact structures

within the heart but also the precise blood flow within each chamber. Insulin came to market because of the pioneering discovery of Banting and Best. It was a crude product manufactured from pork or beef pancreas. Today, insulin is manufactured by recombinant technology and is as near to human as technology allows. An entire generation that learned to play computer games with a joystick has produced skilled surgeons who can deftly perform laparoscopic and endoscopic surgery because of the marvel of fiberoptic technology. It was inconceivable in our day to imagine a cholecystectomy or bowel resection conducted through a few perfunctory abdominal incisions. A five-week hospitalization with the specter of horrible complications was dramatically telescoped into an overnight stay. Cataract extraction was transformed from weeks in bed with sandbags limiting head movement to a two-hour outpatient visit.

Technology has demanded that students adapt to new skill sets. Technology has also outmoded skills that were once thought essential to the practice of medicine. Does anyone percuss a chest anymore? Does anyone listen for egophony?

Progress is inevitable and inexorable. The budget for the National Institute of Health in 2004 was \$28 billion, which represented 28% of the entire national research budget. The remainder was taken up by industry and private or charitable enterprise. Expenditures of this magnitude will necessarily lead to discoveries that alter the practice of medicine. Planning for these changes challenges educators in ways that defy prognostication.

The sequencing of the human genome has been the singular most important scientific achievement of the last half-century. Equally important is the discovery that fragments of 10 to 20 base pairs of RNA can silence (suppress) the expression of its corresponding gene. The ramifications of these landmark discoveries are just beginning to bear fruit. The therapeutics that emerges will astound society as well as the medical community. The foundation for understanding these discoveries resides in medical school and the continuing curiosity of medical students.

Government intervention

The final chapter in the socialization of American medicine is about to be written. Only its form and structure remain in doubt. What may have begun as a noble endeavor, insurance that guaranteed health care for the elderly, has expanded to include ever more segments of society. As the programs have expanded so too has government control.

At its inception Medicare was a boon for both patient and physician. It was designed as a prepaid health plan paid for by a deduction from social security payment. A simply one-page form mailed to a local carrier was all that was required for reimbursement. It was made in days, seemingly in the return mail. Medicare paid 80% of the regional, prevailing and customary fee the physician normally charged. Patients paid for the remaining 20%, if they could afford it. The doctor had the option of waiving or modifying the co-payment. Most everyone was pleasantly surprised by the efficiency of the system. Procedures that were once included in an office visit were now reimbursed over and above the fee for the visit itself.

It took little time for debasement of the system. Medical fees escalated on a yearly basis. Physicians were squeezed in a conundrum. If physicians failed to raise their fees, they would be mired in a lower reimbursement category. When the time came to match their fee to inflation, the reimbursement rate was negligible. Hospitals joined the bandwagon. Prior to Medicare, indigent patients were cared for in voluntary hospitals that charged their local government a capitated fee or billed on a per diem basis. After Medicare's implementation hospitals "unbundled" their charges. Each service was billed separately. At its extreme there was a charge for an aspirin tablet and a separate charge for its administration. Physicians made teaching rounds on the wards of hospitals where indigent patients were attended for the privilege of admitting their own private patients. There was no remuneration for this service. It was an honor and a privilege to do so. An assignment to the wards was an affirmation that you were a good teacher. After Medicare, hospitals employed full time physicians and billed third party payers for their service. Some were less adept at bedside teaching than others.

Four years after Medicare began, congress enacted HR1, the law that allowed Medicare to pay for a single disease. Medicare now covered end stage renal disease, not just for the elderly, but also for all citizens so afflicted. Lives were saved and life extended for many. There was heated debate as to the wisdom of the federal government's decision to cover a single disease. The debate centered on the question of what other universal diseases would it cover in the future. The rebuttal and the reality was that a nation so rich could not afford to allow citizens to die when effective treatment was available. With the inclusion of recombinant erythropoietin the annual budget for End Stage Renal disease in 2006 was \$23 billion. At its inception the government budgeted for forty thousand patients. In 2006 there were more than 506,000 patients receiving chronic dialysis.

The insidious element of Medicare's expansion was the deliberate debasement of a physician's status. The weapon was words. Medicare's Form 1492 required a physician's signature to verify his service and the diagnosis. However, the line on which the signature was placed was not labeled physician or doctor, but rather "vendor." Some would say that the change in terminology was an attempt to make the form universal so that suppliers of oxygen tanks, medical equipment or medical paraphernalia could use the same form. Others would argue vehemently that it was a deliberate attempt to reduce the influence and prestige of physicians. So too the word "patient" was relegated to limbo replaced by "client" as if doctors were vendors of shoes or perfume.

As the Medicare budget soared during the 70s, the Health and Hospitals Administration began to cap the reimbursement rates for doctors. It mandated that if a doctor accepted one Medicare patient there was an obligation to accept all Medicare patients for whatever Medicare allowed. They could no longer arbitrarily choose a patient that paid on a fee for service basis or sliding scale and have that patient reimbursed by the government. Rather than pay hospitals an equal rate for all illnesses, they implemented a system of Diagnosis Related Groups (DRGs). Graduated payments were made depending on the complexity of the disease. Further, it implemented a restriction on the length of stay in a hospital. The rules and regulations necessitated employing a cadre of personnel to carry out the

required directives. Physicians in solo practice had to hire additional help to wade through the morass of paper work. Economics forced physicians to gravitate to group practices where the burden of paper work could be shared and somewhat mitigated. Interestingly, the major insurance carriers followed Medicare's example and for the most part their fee structure mirrored that of the federal government. They no longer wrote indemnity insurance policies. Rather, they ran their own HMOs. The race to socialization was accelerating.

Society's expectations

Society has been fascinated with medicine since time immemorial. The medicine man of ancient cultures held considerable sway in his community because of his perceived mystical healing powers. In modern times interest has not waned. Under the umbrellas of "art imitates life" the television industry has presented its own version of the typical doctor. In many respects it reflects the attitude of society. In the fifties there was Marcus Welby, M. D., a benevolent, kindly, grandfatherly gentleman who dispensed sound advice as well as therapeutic potions. The next version was Dr. Kildare. He was modeled after the classic Arrowsmith, a young vibrant, energetic handsome man who was at the cutting edge of medical progress. As the turbulence of the sixties emerged because of the Viet Nam war so did the concept of physician. We had Ben Casey, M.D., an irascible, ill-kept, almost slovenly figure who was a brilliant physician but angry, demanding, and demeaning to his patients and fellow physicians. This was followed by M.A.S.H. an ensemble cast of physicians thrust into battlefield conditions who railed constantly about the indignities they had to endure. They were glib, eccentric, swashbuckling heroes who practiced good medicine despite their personal foibles. Then we had Nip/Tuck, a story of two Plastic Surgeons who somehow week after week made perfect the sins of nature. They satisfied the fantasies of their patients and raised to new heights the self-indulgence of the "me-generation". In the real world anything short of perfection is considered malpractice. Our current model is Gregory House. He practices by trial and error ordering cutting edge tests seemingly at random, instituting heroic treatments on a whim, a testament to how medicine appears to be practiced today. He is a flawed character, a drug addict and yet he somehow saves the day week after week, but always after being struck by an incongruity that allows him to make the final accurate diagnosis. The cost effectiveness of his diagnostic and therapeutic *tour de force* is incalculable. Neither he nor his house staff ever took a detailed medical history. They can't agree among themselves what is the chief complaint let alone a history of the present illness.

In every decade audiences adopted the new face of medicine. Patients expect their own doctor to be as wise, angry, intelligent, and intuitive. Most importantly, patients have come to expect perfection. Medicine has become a victim of its own success. No one is supposed to die. Someone other than God must be held accountable. Everyone is supposed to get well. Complications are someone's fault. No one need suffer. There is a pill for it. Or an exotic procedure that saves the day. Short of perfection enters the malpractice lawyer.

Our own classmate produced a series of TV documentaries broadcast nationally called The Body Human. Each episode brought to life the cutting edge of medical progress. Unlike the conceptualized doctor, these programs elevated the human spirit. They were realistic, balanced and forward looking. They did not offer a panacea. They offered hope for a better tomorrow.

Print and TV advertisements aimed directly to the public extolling the virtues of medicine and procedures has not been helpful. At worst, patients are misinformed and at best, they receive incomplete information. The end result is a herd mentality to adopt the latest iteration of a drug or procedure. When the results do not live up to expectations, lawsuits ensue. Even lawyers have entered the arena of public advertising extolling their skills at extracting large settlements for injuries. The resultant malpractice premium escalation has forced many from the practice of medicine. Malpractice has also steered many capable students away from specialties that are notorious for lawsuits to specialties that are less prone to interpretive results.

The American Academy of Orthopedic Surgeons estimates the direct cost of malpractice and defensive medicine to be between \$100 to 178 Billion per year. While the awards represent only \$10-20 Billion (not an insignificant number) the remainder can be attributed to the defensive tests to insure against lawsuits. Patients in my own practice often demanded expensive tests because the media presented them as cutting edge. When told they were unnecessary the response was predictable, "Why do you care, doctor, Medicare is paying for it?" It is disingenuous for anyone to lament the high cost of medical care without addressing both defensive medicine and unnecessary, expensive and duplicated tests. How long will defensive medicine continue to rule the day?

If contending with the foregoing were not daunting enough, there has emerged self-appointed monitors that rate physicians and hospital performance based on arbitrary criteria. The results are published in print or on the Internet and not easily subject to rebuttal. As for physicians, the data is less than objective. It is quite a challenge for newly minted doctors to address the onslaught of speculative opinion before they have had an opportunity to establish themselves in a community.

The central issue is how to educate the physician of tomorrow. How can a curriculum be structured within the confines of the three pillars that influence it? How should Georgetown or any medical school prepare their students for the practice of medicine that will be conducted in the next half century? Chances are that no curriculum can be constructed to meet all the unknown challenges of tomorrow. Students must understand that their education is merely a foundation or a template for the future. Our curriculum was perfect in its day but we had to adapt to the changes that evolved. At the end of the day there will always be illness and disease. Whatever structural form evolves for the delivery of medical care there will always be a need for caring physicians to attend to their sick patients. There will always be those who attempt to influence and control the system or its delivery. But physicians of tomorrow can only measure their success by how well they individually care for a patient. Despite all the forces that attempt to intervene the bond between a sick person and a physician is timeless and immutable.

Georgetown's curriculum merely sets the stage. It is the principals who act. There can be no medical practice without physicians. If medicine is to be restored as a noble profession it will be up to the principals who practice with principles who do so.

Bibliography

Boulis AK, Jacobs JA. *The Changing Face of Medicine*. Cornell University Press 2008

Garber AM, Tunis SR. Does Comparative-Effectiveness Research Threaten Personalized Medicine. *N Engl J Med* 2009; 360: 1925-1928

Cooke M et al. American Medical Education 100 Years After the Flexner Report. *N Engl J Med* 2006; 355: 1339-1344

Hafferty FW. Professionalism-The Next Wave. *N Engl J Med* 2006; 355: 2151-2152

Whelan D. Rating Your Doctor. *Forbes* May 25, 2009

Arky RA. The Family Business- To Educate. *N Engl J Med* 2006; 354: 1922-1926

Karigaard R. Digital Rules. *Forbes* Sept. 7, 2009

http://www.usrds.org/2008/view/esrd_11.asp

Lauer, MS. Elements of Danger-The Case of Medical Imaging. *N Engl J Med* 361: 841-843

¹ Donna Shalala CNBC April 30, 2009