

Technology & the End to Entitlement

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When a fire rages out of control and people feel helpless to stop it, inevitably the smaller minds involved begin searching for someone or something to blame. Unfortunately, as the American political system grapples with health reform, it will become increasingly "politic" to affix blame for our system's manifest failings.

Few "culprits" in the health system loom larger as potential targets for blame than medical technology. Yet no area in medicine cries out more loudly for a more rational approach to societal management than our use of medical technology.

Medical technology is the core driving force in all health systems. It changes how physicians practice and how they interact with patients. It has not only enabled us to extend lives that would otherwise have been lost, but to preserve functional capacity of those critically injured. On the other end of the acuity spectrum, it has enabled management of illness at progressively lower levels of acuity. Technology has increased the length, width, and depth of the medical market basket, rendering health cost trend measurement over time a depressingly inexact science.

"Devil theories"

Technology has also threatened established healthcare franchises. Technology has fatally compromised the hospital's central role in healthcare delivery by opening alternate site venues for complex care. It has also made traditional approaches to healthcare payment obsolete. The healthcare payment system's response to medical technology has been as ineffectual as the basketball defense strategy of "standing and waving." The political system, not just in the United States but everywhere in the world, seems paralyzed in the face of advancing medical technology. And paralysis breeds frustration and "devil theories."

The lead Jeremiah in the political debate has been William Schwartz, MD, of *The Painful Prescription* fame. Schwartz is a leading proponent of "rationing" medical technology and has lent encouragement to those who argue for limiting research and development expenditures as a vehicle for containing health costs.

In a 1987 article in the *Journal of the American Medical Association*, Schwartz contended that "We can ... anticipate serious problems in controlling costs unless we are willing to forego ... introduction and diffusion of innovative diagnostic and therapeutic measures." He further argued that "although there is hope that future research will lead to the development of technologies that will check the rise in costs, the near or mid-range prospects for such an outcome appear to be small."

Though many observers blame technology for the rise in cost, a close reading of the literature reveals major gaps in hard evidence. Most analysts try to factor out of

aggregate health cost increases such things as population growth, an increasing number of elderly, and rising prices of labor and supplies. After all these factors have been eliminated, technology resides somewhere inside an insidious factor labeled "intensity," which is rising at an accelerating rate.

Technology's impact on the cost of healthcare is subtle and complex. Technology is not inherently cost-increasing; indeed, technologies like vaccines produce benefits that far outweigh their cost. But many technologies have increased not only the complexity but the volume of clinical events. Technology has been the principal driver behind the explosion of ambulatory services, which has in turn become the driving force in American healthcare cost growth.

Technology affects cost in several important ways:

- It reduces the threat and risk of medical intervention.
- It reduces the unit cost of intervention in many cases.
- It expands the population "at risk" for clinical intervention, particularly in lower-acuity stages of complex disease.
- It creates income-generating opportunities for physicians and hospitals.

These factors compound one another, and interact with an important cultural factor in American medicine—the bias toward action—to expand the cost of healthcare. The bias toward action has been financed in major part by third-party payment ("someone else's money") so that often only the marginal benefits of treatment are considered, rather than the benefit-cost relationship.

Knee treatments

Arthroscopy provides the best example of how all these forces conspire to create a burgeoning health cost problem. The use of fiberoptic scopes to diagnose and treat joint disease has revolutionized orthopedic practice. The stunning spectacle of Joan Benoit winning the 1984 Olympic Gold Medal in the Marathon only five weeks after arthroscopic knee surgery announced to the world the power of this new tool.

Prior to the Eighties, the conventional therapy for damage to knee ligaments was invasive arthrotomy, inpatient surgery with a double-digit length-of stay post-operatively, followed by months of frustrating, painful physical therapy. No wonder many knee injury victims avoided treatment and limped around on crutches until the pain and inflammation subsided.

Arthroscopy changed all this. The advent of flexible fiberoptic scopes enabled orthopedists to diagnose knee injuries through pencil-size holes in the skin and, later, to repair much of the soft tissue damage around the joint. Diagnosis and treatment of knee injuries became possible on an ambulatory basis, with far less damage to the joint, and shorter, less painful rehabilitation.

Compared to the former inpatient alternative, the unit cost of therapy was sharply lower. But because the pain, risk, and cost of intervention were lowered dramatically by arthroscopy, volume (and orthopedic incomes) exploded. Many patients with marginal injuries who would have opted to grin and bear it in an earlier technological era chose intervention instead.

The consequent benefits were not insignificant. Athletes, both professional and amateur, were able to extend their careers. Workers who would have had to leave their professions or suffer lengthy interruptions in their careers, were returned to productive employment.

But the cost and volume impact became a part of a larger problem. In one after another of the new technologies intraocular lens replacement for cataracts, endoscopy for digestive disease, noninvasive magnetic resonance and ultrasound imaging for cancer and obstetrics-the same scenario was replicated: lowered pain and risk, lower unit cost, expanded scope of treatment, explosion in cost (and incomes).

According to Terrence Kay (*Health Care Financing Review*, Summer 1990), ambulatory procedures like lens replacement and the various "oscopies" accounted for 39 percent of the growth in Medicare physicians' services from 1983 to 1986, when their utilization was just gaining popularity. My own undocumented belief is that as much as 70 percent of the growth in physician expenditures during the late Eighties was accounted for by the less invasive technologies such as MRI and ultrasound together with the escalating use of flexible scopes.

At the other end of the acuity spectrum, dramatic advances in life support and critical-care technology have enabled obstetricians and neonatologists to save high-risk premature babies who would otherwise have died at birth or shortly thereafter. Ultrasound enabled obstetricians to intervene in the birth process to rescue threatened babies. Advances such as ECMO (extracorporeal membrane oxygenation) enabled tiny preemies with compromised lungs to survive their first few weeks. Transplantation or repair of damaged organs in infants and children also flourished. The price tag for all these interventions: billions.

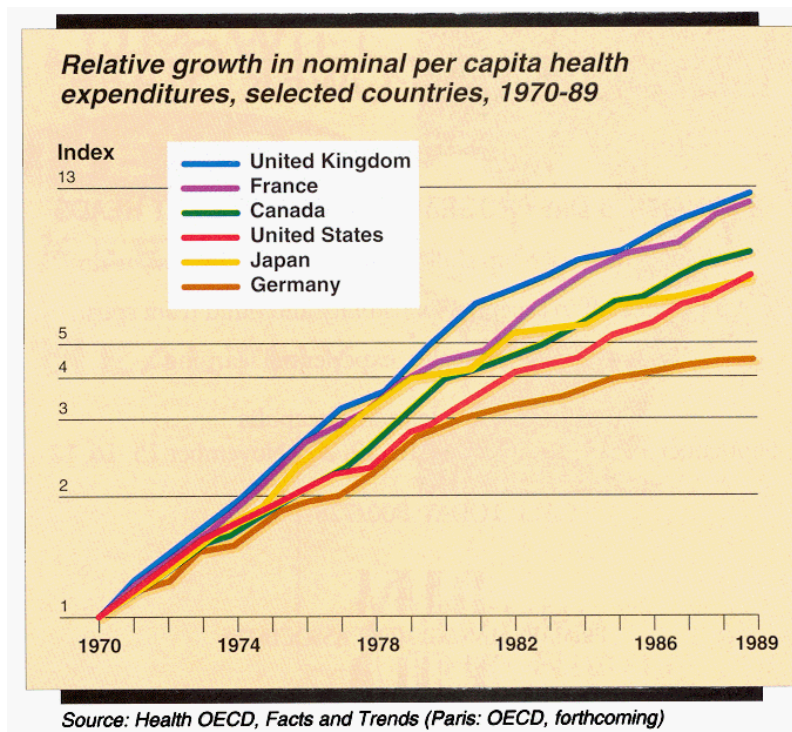
Both types of advances-low and high intensity technological intervention-have multiplied many-fold the number of patients at risk who can be treated, and created income-generating opportunities for the clinicians involved. However, by expanding potential beneficiaries, technological progress has also undermined a central tenet of our political system's view of healthcare.

The end of entitlement

Though you cannot find a statutory basis for it, most Americans believe they have a right to healthcare. An earlier generation of politicians fostered this belief on the cheap, by creating incomplete public financing schemes that left, even after 1965, tens of millions of Americans dangling over the precipice of medical need.

It is difficult to quarrel with the idea, as now-Senator Harris Wofford propounded in his famous Pennsylvania Senate race, "If criminals have a right to an attorney, you should have a right to a doctor." It is difficult to argue that U.S. citizens should not have the right to emergency care regardless of their race, income, or other variables. But do we Americans have a right to arthroscopy on demand, or to an MR scan after a head injury? Do expectant mothers have a right to ultrasound during pregnancy?

It does not take a Rhodes Scholar to foresee that a healthcare payment system based on the premise that healthcare ought to be free to the patient and that intervention should generate marginal income to providers would have trouble containing health costs. This problem is not unique in the United States. Even countries that salary their specialists, and have eliminated the entrepreneurial, piece-work incentive, have experienced double-digit growth in health expenditures. The cost trend is universal, and is rooted in the inability of political systems to manage a societal entitlement to an expanding medical market basket (see graph).



Other societies, notably England, have been more willing to limit access to technology based upon age, but none have actually altered the historic upward trends in health spending meaningfully.

The expanding range of technological options has tendered the concept of a diffuse "right to healthcare" both fiscally and morally untenable. In this arena, the general public appears to be far ahead both of our lawmakers and the health policy "community." The citizens of Oregon, in several years of broad-ranging public meetings, questioned the

uncritical acceptance of the idea that all technological interventions are of equal importance to the society. This dialogue fostered Oregon's pathbreaking, priority-setting system for health services.

The idea that there might be more societal benefit in providing 10,000 high-risk pregnant women with prenatal care than one critically ill child a new kidney is only revolutionary thinking in Washington, not on Main Street.

In Washington, the rhetoric of entitlement continues to pervade health reform dialogue. The hypocrisy of the Congressional guardians of the entitlement ideal resembles that of the police captain played by Claude Rains in "Casablanca," who was "shocked, shocked" to find gambling was going on in Rick's drinking establishment. Members of Congress who blame technology or greedy providers for our nation's cost problem (and continue accepting massive political contributions from the "industry") cannot escape blame for our current health cost crisis.

Just over the horizon

What lies just over the technological horizon will force not only legislators and health policy wonks but finance ministers all over the world to invent a new paradigm to replace the "rights" formulation. As discussed in a previous article in this journal ("The reshaping of healthcare," May/June, July/August 1992), the technological capacity to predict medical risk through gene probes is within a decade of broad-based use. Diseases like cancer, diabetes, and Alzheimer's disease, which are today unpleasant surprises, may be predictable as much as 50 years prior to onset. This advance warning will enable prophylactic "management" of serious medical risks through new or emerging genetic and immune therapies.

The impact of the coming explosion in genetic prediction can easily be anticipated; Genetic screening will expand the "population at risk" for medical treatment to the entire society. It will not merely be people who manifest early stage symptoms of disease who will be candidates for treatment; literally everyone will have some degree of genetic exposure to future disease risk.

Will all people have a right to medical treatment for their identified genetic risks? Clearly, the resources will not be there to finance a universal entitlement to prophylactic care. Given the fiscal realities, how will we set priority for determining which illnesses should be attacked at their genetic or molecular roots in which individuals should receive preventive treatment? And how will we view individuals' "entitlement" if they fail to take measures needed to manage their own identified health risks?

Today, we seem reluctant as a society to question the right to medical treatment for motorists who do not wear seat belts, or motorcyclists who do not wear helmets. Why do such individuals have expensive rights to treatment without a commensurate obligation to protect their own health?

Does an alcoholic really have a right to a kidney transplant (as the late Bush administration unbelievably contended in rejecting Oregon's innovative health plan)? As we enter the new era of genetic prediction, will individuals with a damaged tumor suppressor gene that elevates their long cancer risk 50-fold really have a valid claim on the society's resources for treatment if they smoke anyway and develop lung cancer?

It is clear from the discomforting questions raised that our society's technological capability has far exceeded the capacity of our political system and culture to manage it effectively. To manage medical technology humanely and responsibly, we must do at least three things:

1. Establish an empirical basis for assessing the benefits and costs of the new technologies that enable us to make national coverage and payment decisions.

Coverage decisions by government and private insurers must be predicated upon quantifiable benefits to the society as a whole. Simply adding a new technology to the mix as it is proven "safe and effective" is no longer adequate policy. Not all health services are of equal societal benefit, and, in paying for health services, we must stop pretending that they are.

The Luddite faction of our health policy community would simply forego technological progress, by restricting research and development activity, or as the current FDA appears to be doing, using bureaucratic delaying tactics to deprive us of access to innovation.

A more intelligent approach is to let the market and individuals decide—with outcomes and appropriateness data at the ready. Let federal and private payment policy signal the relative importance of new technologies. Approve the technology for use, but vary the payment levels in health programs to reward innovations according to their measurable societal contribution. "Me too" drugs that merely copy already-approved therapies could be reimbursed at a small fraction of the rate of the originals, for example. Weighing value is not rationing; it is the basis for conserving scarce resources and assuring that they purchase the maximum benefit for our country. Healthcare payment must signal the value of new technology and reward those innovators who make quantum improvements in our health possible.

2. Hold providers of care accountable for weighing the benefits and costs in using the technology. Though healthcare reform will surely diminish it, the piecemeal framework of physician payment will not survive the coming wave of biotechnological innovation. Per capita payment will force providers to assume the economic risk for overall health care for their enrolled population, and in doing so, weigh the overall benefits and costs of the use of technology for those populations.

Capitation seems like the perfect framework for maximizing the unit cost savings inherent in many new technologies while controlling the volume increases. There is much discretion within a population risk framework to apply technology on a case-by-case basis where the benefits to the individual patient clearly justify the cost.

Managed care plans with large enrollments are taking technology assessment increasingly seriously. Kaiser's Permanente Medical Group of Southern California has convened panels, to evaluate costs and benefits of new technologies. A recent review of available scientific evidence and peer judgment regarding the use of nonionic imaging contrast agents concluded that costs outweigh benefits for their subscribers. The result was a decision to forgo their use. (There's a fascinating discussion between Kaiser's David Eddy, MD and a KPMG radiologist in the April 14, 1993 issue of the *Journal of the American Medical Association*, pages 1849-1855.) If healthcare reform is about shifting risk and responsibility for cost to organized groups of providers, technology assessment becomes essential for the accountable health plan.

3. Hold individuals and families both economically and morally responsible for the use of technology through cost-sharing graded to their level of financial resources.

Family economic participation should be required not only for elective care such as that for knee injuries but also for care for the critically ill. The participation should be progressive according to available family resources, but all families, even the poor, should pay something.

Economic incentives must also encourage healthy behavior; those who are heedless of the health consequences of their behavior cannot have the same "entitlement" to care as those who take care of themselves. The motorcyclist without a helmet who sustains a head injury should pay a large portion of the cost of his or her treatment.

We must find a language of individual and familial obligation to the society that matches the rights we have so casually assumed we have as citizens.

Political power in the United States has attenuated sufficiently that government controls cannot correct distortions in value created at the nexus of doctor and patient. Until risk and the responsibility to weigh the value of medical treatment are shifted to doctors, hospitals, and families for the use of costly technology, costs will continue to rise without limit.

We can blame medical technology for our society's cost problem if we choose. It is politically convenient to do so, because it enables our political leaders to depersonalize the consequences of an insatiable societal appetite. But blaming medical technologies for our health cost problem is about as valid as blaming the manufacturers of Dove Bars for our national weight problem.

The real enemy, as Walt Kelly observed a generation ago, is us, and the politicians who continue to mislead us about our "rights." Perhaps the citizens of Oregon aren't so far ahead of the rest of us as their detractors on both ends of the political spectrum think they are.