EINTHOVEN, ENTHOVEN AND ENTITLEMENT

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In 1924 Willem Einthoven, Professor of Physiology at the University of Leiden, received the Nobel Prize in medicine for inventing a string galvanometer with which he recorded the electrical activity of heart muscle. The electrocardiogram, or EKG, was a significant medical advance. It was more informative, in fewer ways, than the use by a trained cardiologist of the stethoscope. It could be recorded by a technician in the physician's absence. And it was expensive, requiring a complex machine and training in interpretation. Like almost all tests of human physiology EKGs were neither wholly sensitive - some diseased hearts yielded normal tracings - nor wholly specific - some false positive records were obtained from normal subjects. Some physicians rejected EKGs, for a while, and others embraced them as objective substitutes for thought. The definition of normal took time and proved, as in other measures of human physiology, to be a bell shaped curve with the greatest number of normal observations clustered within a narrow range and a few, still normal, recordings hanging at the fringes to puzzle and annoy clinicians. Professor Einthoven's brainchild has of course been upgraded beyond recognition with monitor oscilloscopes, defibrillators and implantable pacemakers. EKG tracings can now be read by computers with an accuracy matched by few physicians. The industry which grew from the 1924 Nobel prize insight has rivalled munitions making.

The EKG is a splendid early representative of this century's new deal in medical technology. The alphabet soup has thickened, with CAT scanning, CABG ("cabbage") techniques, triple A surgery (Abdominal Aortic Aneurysms) and Co60 (cobalt) radiation therapy. As Dr. John Knowles, General Director of the Massachusetts General Hospital before he headed the Rockefeller Foundation, remarked fifteen years ago, "It used to cost $3,000 to die;

now it costs $30,000." He further horrified his audience by announcing that one day in a hospital room would soon cost $100. His figures are ludicrously out of date, but he spotted the trend.

Enter Enthoven - Alain, Professor of Public and Private Management in the Stanford University Graduate School of Business. He is a health care economist. Perhaps you have read his recent volume "Health Plan." He is fascinated by statistical descriptions of human activity and by the motives which induce economic behaviour. He would agree with Dr. Knowles that when a man says "it's not the money, it's the principle of the thing," it's the money.

Professor Enthoven does not mourn the passing of a simpler time when medical therapy lacked polio vaccine, or penicillin to defeat the "old man's friend", pneumonia, and when the poor and the ill received charity care. He would have empathized with my MediCare age patient in 1960 whose prolonged dying, before MediCare, denied her grandson expected support at university. Application of the insurance principle to health care financing was made by surgeons decades ago and seemed so successful that state and Federal governments in the 1960's adopted its main principle, the payment of "usual, customary and reasonable" fees to physicians and of costs to hospitals, to the expenditure of public funds for the care of the elderly and the indigent. Not all economists agreed with President Johnson that a humane society could have both guns and butter ad lib, but most believed that health care and guns could be purchased simultaneously by our enlightened democracy.

Now let me put some figures on the board. Between 1965 and 1980 total health care spending in the United States rose from $43 billion a year to $250 billion, more than doubling after subtracting inflation. Public sector spending increased from $11 billion to $100 billion.

Medicare, only $9 billion in 1972, will be $47 billion in 1982, and Medicaid will be $18 billion. MediCare costs have been doubling every four years. Health care has become the fourth largest item in the federal budget, after income security, national defense and interest on the national debt. Total health care spending as a percentage of gross national product has also doubled in 15 years and is now 9.4%, and rising.

If these huge figures are mind-boggling, we can focus on smaller items. An average day in a hospital room now costs $240, before therapy, and the price of an Intensive Care Unit bed can exceed $1,000 a day at the Stanford Medical Center.

We have sold each other a rapidly expanding array of medical goods and services and, not questioning their necessity, have accepted their costs. Most of us, that is. The movement to prepayment for service, as opposed to premium payment for third party indemnity insurance, has crept into this expensive picture. In the decade of the 1970's enrollment in prepaid service plans, euphemistically called Health Maintenance Organizations by Congress, tripled, but by 1980 the total enrollment of 9 million was only 4% of the United States population. However, California was not typical of the country as a whole. 3.5 million of its population, about 16%, belong to the Kaiser Foundation Health Plan and other Health Maintenance Organizations. In the San Francisco Bay Area one in four citizens buys prepaid health care, and at least 8 HMOs compete.

Professor Enthoven is a realist. Before analyzing these data, he concedes that if we do not see any need to control medical care costs, we don't have to explore ways of doing so. Leaders of the American Medical Association, and delegates to the President's recent council on aging, do not seriously support the premise that cost control is a high priority. A few other countries in the world are surviving while spending higher

percentages of gross national product on health care. But Enthoven disagrees and asks the economist's question "What is there about our present health care financing system which wastes money?" His analysis is not complex:

First, if almost every patient has a third party paying the bulk of his or her medical bill, cost is of little concern to the patient.

Second, if third party reimbursement to the physician is for "usual, customary and reasonable fees", the physician prospers by providing more services, whether or not they benefit the patient. It may always be prudent to order an EKG in the office and to receive $30 to $75 for five minutes work performed by an assistant.

Third, if third parties reimburse hospitals for costs, hospitals which generate more costs do better than those which are cost conscious.

Fourth, if third party payments cover hospital-based treatments and not less costly office care or home care, physicians and hospitals will conclude that patients require hospitalization, and patients will ask for this.

Fifth, if third party payors can gather sufficient funds from the population as a whole, either through insurance premiums or tax revenues, to remain solvent, they do not need to be cost conscious buyers of medical services. In any case they cannot be, because patients, not payors, select physicians, and physicians select tests, therapies and hospitals.

In these five points, we discover no incentives for economy. But government tax policy compounds the disincentives to control medical care costs. Employer-paid health care coverage is a deductible expense to the employer and a tax-free benefit to the employee, a combination which will cost the Federal government $28 billion in lost taxes in 1982. You would therefore guess that unions would ask employers to pay 100% of employees' health care coverage. This has happened, and this demand has been granted by increasing numbers of employers. The fortunate employees

and their physicians, seeing no copayments to be made by patients, have zero incentive to seek or dispense care wisely. Both have maximum incentive to expand the scope of employer-paid benefits to include, for example, dental care and eyeglasses. And, of course, the medical care which employees obtain through collective bargaining, and which business executives and professional persons can afford from their own resources, becomes society's norm. What right-thinking politician would suggest that elderly and indigent beneficiaries of public programs should receive less? Medical societies and hospitals are vehemently opposed to these beneficiaries being treated as "second class citizens."

Professor Enthoven, bless him, is not a true believer in regulation. Direct, government-imposed cost controls have been costly failures, riddled with exceptions, mired in inefficient bureaucracies and productive only of evasive action. He turns for hope to an American tradition - competition. In Congress at this time are several complicated bills designed to induce providers of medical care to organize into efficient, competing systems for the delivery of comprehensive health care services, and to persuade consumers of care to evaluate the competition and choose the best buy they can afford. These bills are based on Professor Enthoven's writings. His recommendations flowed logically from his analysis of current health care financing. His prescription for fair economic competition in health care delivery comes to this:

First, consumers should be able to choose between health care providers and to change their choices at least annually.

Second, consumers should be at risk to pay a portion of their medical expenses themselves, a significant enough portion to motivate them to consider cost in choosing their providers of care. Or, to put this differently, tax-deductible contributions by an employer to an employee's

health care coverage should be limited to some fixed amount, the same for all competing providers, so that the employees can best protect themselves from large copayments by choosing the most efficient provider. This, of course, leaves patients with their present freedom to choose more costly providers if they can absorb the copayments.

Third, health care providers should still be partly regulated so that competing organizations would all have to offer at least a minimally comprehensive benefit package and could not indulge in special "skinny" packages for the healthy young.

Fourth, competing health care plans should each have physicians, affiliated only with that plan, who are given incentive to control costs while practicing high quality medicine. This is where Professor Enthoven borrows from the experience of HMOs in California. HMOs have cost their members 10 to 40% less than total charges third party indemnity insureds must pay. This saving has come primarily from a markedly reduced rate of hospitalization, a rate ranging from 1/3 to 2/3 of that for third party indemnity insureds. Physicians' incomes in HMOs do not depend on increasing services or hospitalizing patients. They are larger if their HMO can operate within budget. Professor Harry Schwartz of Columbia pounces on this potential conflict of interest and suggests that prepayment causes physicians to neglect their patients. There is no convincing evidence that this is so. The deterrents to such unprofessional behaviour are many and strong, and poor care ultimately costs an HMO more for patients who remain the HMO's responsibility.

Professor Enthoven's competition model is more than theory. In California competition between fee-for-service physicians and HMOs has been alive and well for years. In the last three years fee-for-service

physicians in California have rushed to start their own HMOs for one principal purpose - to protect their incomes from the depradations of the Kaiser Foundation Health Plan's growth. Some of these new HMOs are disciplined competitors; others will soon fail. Although this may not be apparent to many consumers in these inflationary times, competition in California has limited the rate of increase in health care costs.

There is another, more general, real world model for Professor Enthoven's proposals, the Federal Employees Health Benefits Program. For decades Federal employees have had an annual choice among dozens of competing health care plans. The Federal government's contribution to the cost of coverage is fixed at 60% of the average premium of six of the largest participating plans. The employees therefore have incentive to choose the plan which is most efficient and economical, although they can also choose to buy a more expensive plan if they are willing to pay the difference. They can switch coverage annually. The participating plans are cost conscious because they want membership. The Kaiser Foundation Health Plan's largest single membership group is government employees, 170,000 individuals.

If Professor Enthoven's analysis is sound and if his recommendations are firmly based on actual "pilot" projects exemplifying competition between health care plans in California and in the Federal Employees Health Benefits Program, what are the prospects for the competition bills now before Congress? There is something ironic in our society about having to legislate competition. We used to welcome competition and to embrace it spontaneously. These competition bills are not antitrust laws, made necessary to discipline predatory competitors which gobbled up smaller prey through unfair stratagems. The legislative push toward competition in health care delivery attempts to make physicians and hospitals compete by making them and their customers

cost conscious instead of cost oblivious or cost increasing.

Is this an idea without a constituency? Individual citizens do not want increased copayments for their health care coverage; Medicare members actually want benefits expanded. Unions bitterly oppose changes in the tax laws which would deprive them of already-won tax-free benefits. Employers don't want their contributions to employee health plans to lose their tax-deductible status. Hospitals want cost reimbursement to continue. And most physicians certainly abhor price competition; most would hardly choose to become employees of large organizations. They are well satisfied with the blank check of third party indemnity insurance, and they defend their right to order for their patients whatever studies and treatments high quality care demands without worrying about who will pay the bill.

How can competition have much impact anyway? Turning again to the dark side of the cost control picture, we find trends which may respond poorly to competition, or not at all. The Einthoven trend toward ever more costly technology - for example, heart lung transplants and artificial organs - is fuelled by our scientists' fascination with research and by the industry which makes the machines. A cynic has remarked that the way to cut health care costs is to close the National Institutes of Health where much medical research is done. The national trend toward an ever older population has been publicized in relation to Social Security. It will equally impact MediCare funding. The trend toward increasing entry of providers in health care fields is obvious if you examine bills introduced into the Sacramento legislature. Every organized paramedical service - nutritionists, respiratory physiotherapists, nurse anesthetists, psychological social workers and dozens of others - want a license of expanded scope to give them partial monopolies of segments of health care,

and mandated inclusion in health insurance and health care service plans to make sure they will be paid. On their heels are less reputable workers - experts in holistic health, parapsychology, megavitamins and manipulation of the spinal nerves. They say, "Come on in, the demand is insatiable." Overhanging all of these ambitious paramedicals is the trend toward a physician surplus, keenly felt in the San Francisco Bay Area. You might think that a surplus of medical providers, like a surplus of hospital beds, would promote competition and reduce health care costs. The evidence is otherwise. Professor Victor Fuchs at Stanford has found that if you have twice the number of surgeons per capita in one area compared to another, you get 30% more surgery and higher fees. Empty hospital beds are, of course, paid for by those in the occupied beds. The trend toward increasingly savage malpractice action and huge awards will continue to threaten even cost conscious physicians and lead them to conclude, "Perhaps I'd better order that test, just in case." Finally, government regulators will continue to experiment - a general trend of our times. Health Systems Agencies, a failure after hundreds of millions of dollars spent, may pass away, but the politics of Certificates of Need for medical facility construction will live on in state bureaucracies. There are countless other examples - Professional Standards Review Organizations, Emergency Medical Services networks, tertiary care center designations - with stronger or weaker rationales. All raise costs and delay innovation. The famous fib flourishes, "I am from the government and I am here to help you."

If prospects for the concept of competition in health care delivery were hopeless, intelligent men like Senator Durenberger and Congressman Waxman would not be trying to implement Professor Enthoven's recommendations.

A motley constituency is emerging in their support. Call it necessity, or regard for society's future, but this constituency also has identifiable components. When the cost of medical care becomes too much of a scandal, interest groups of unusual origin form. The first such interest group is government itself. President Reagan cannot balance the budget and strenthen national defense without slowing the rate of growth in medical care costs. He has to try to restructure MediCare, and the Federal Employee Health Benefits Program offers an adaptible model. Both David Stockman's budget-cutting proposals and Governor Brown's limits on MediCal payments to physicians and hospitals reflect desperation about health care cost control. They are really "cost shifting": if the public beneficiary's care is reimbursed below cost, the private patient pays the difference. This isn't new, but the magnitude of it is. MediCal funding in California faces a shortfall of millions of dollars, and available funds do not pay provider costs. Stockman, Brown and other politicians might support Professor Enthoven's ideas, although competition will take time to develop and to function effectively to reduce government's costs. The second group interested in competition between health care providers is the insurance companies. Blue Cross-Blue Shield of Michigan lost $88 million last year and has requested authority to raise premiums 46%. Regulators must decide on this political hot potato. The BC-BS loss in Texas has been $100 million in two years. Some health insurance companies have stopped writing health insurance, and others may soon follow suit. The situation is beginning to resemble the medical malpractice crisis of the mid-1970's when insurance companies fled the field. This crisis is now recurring. The third component of a pro-Enthoven constituency is surely large employers. Despite ambivalence about limits on the tax deductibility of health care costs, employers are themselves fo menting a form of competition between health care providers. They have huge purchasing power. They can go to hospitals

and say, "We will not pay your high rates caused by your MediCal patients. We will pay our fair share of your costs. Which of you would like our employees to use your hospital? Make us an offer." They can theoretically bid physician groups against each other, or hire salaried physicians. Little of this has yet happened, but employers nationwide are forming coalitions to investigate ways to limit health care costs, and many are not inviting health care providers to participate, an avoidance deplored by the American Medical Association. Employers' plans which self-insure their employees' health care are growing rapidly and are subtracting from other health insurance pools a healthier, working group of favorable risks. Employers will favor competition legislation if they believe it will help the "bottom line." A final interest group, hospitals, particularly academic medical centers, is hard to place in the pro-competition ranks. Cost reimbursement and generous government research grants have done them proud. But the groves of academe are losing their money trees. Their continuing high costs make them unattractive to HMOs and other group practices for hospitalization of members, except for highly specialized services not available elsewhere. The financing of medical research, teaching medical students and training house staff is the issue. Perhaps if the competition bills could be amended to transfer to governments the costs of these essential services, the hospitals would favor competition and strive to run leaner operations. The teaching hospitals tend to have the best physicians and are in a position to succeed in the competition. In later 1982 we will learn the fate of competition legislation. Passage of any bill as introduced would be a miracle.

Meanwhile the messy, maneuvering, economic present is with us. Late last fall health care providers participating in the Federal Employee Health

Benefits Program submitted rate increases for 1982. Blue Cross-Blue Shield requested premium increases averaging about 40%. The Kaiser Foundation Health Plan weighed in at 12.9%. The Office of Personnel Management rejected the Blue Cross-Blue Shield increases as unaffordable and told BC-BS to roll back its benefits to create a cheaper package. It also decided to mandate an across the board rollback in requested rates for all participating plans, including the KFHP, which had only sought to keep up with general inflation. All plans had to reduce benefits. The arithmetical outcome left BC-BS premium increases far above KFHP dues increases. December was the usual month for "open" switching of Federal employees from one participating plan to another, and BC-BS, fearing a large loss of membership, threatened to withdraw from the FEHBP unless this open period was cancelled, leaving the BC-BS members locked in. The Office of Personnel Management agreed to this! So much for the concept of competition! Needless to say, two lawsuits followed, one brought by Federal employees to restore lost benefits, and the other brought by plans other than BC-BS to compel the OPM to honor its contractual promise to hold an annual open period. The Federal courts have upheld OPM's right to limit what it will purchase from participating plans. The rollback in rates and benefits stands. A Federal district court has ordered an open period, but, pending appeal, this order has been stayed. The moral of the story is not clear, but the OPM's expedient manipulation of "competition", to the disadvantage of employees and competitors alike, makes Professor Enthoven's earnest recommendations appear naive. His favorite practical example of the feasibility of his concepts has betrayed him.

We have not addressed entitlement. Narrowly it means the right to claim a benefit, most often under a law or decree having the force of law.

Beneficiaries of MediCare and MedicAid have entitlement, as do those protected by civil rights legislation. As the Reagan administration is discovering, entitlements, once given, are very hard to take away. The pressure is to expand them to add benefits which were surely omitted by oversight at the first bestowal. An interesting example connects the civil rights law, Title VI, to medical care. Title VI prohibits discrimination against any person on account of race or national origin. Civil rights activists read this to mean that any medical institution which receives funds from the Federal government must provide interpreter services without charge to ill persons who have not learned English. Cost is not taken into account. Other laws also define patients' entitlement to health care. Community hospitals cannot obtain a license unless they agree not to refuse care to those who cannot pay. Malpractice case law holds that once a physician has undertaken a patient's care, he cannot abandon that patient, certainly not because the patient becomes bankrupt. The Hippocratic oath implies a further obligation upon physicians to help all comers. It is understandable that we hear increasingly the conclusion that access to modern health care is a fundamental human right in our society. Health care is qualitatively different from shelter, or other material comforts. It is essential to maintaining life itself. We who are well, and who live at liberty in an affluent society, must accept the responsibility to provide health care for those who cannot obtain it for themselves.

Is not this emphasis on health care cost control beside the point? No one pretends that excellent medical service comes cheaply. We are proud of our medical discoveries (as we are of our Apollo program) and rejoice when our medical scientists follow Professor Einthoven as winners of Nobel prizes in Medicine. Senator Kennedy, advocate of National Health Insurance

despite the example of Great Britain, sends his son to the finest, and most expensive specialists, when life or death is the issue. The least meritorious HMO, on the verge of bankruptcy, will advertise the high quality of its medical care. The American Medical Association has adopted the role of elder statesman, pronouncing that controlling health care costs is a laudable goal to be pursued within reason, but that the quality of our health care is our primary concern, especially when we or our loved ones become patients.

The difficulty is that words, values, philosophies and concepts will not make our dilemma go away. There are hundreds of millions of us eating too small a pie, or, said differently, each of us can purchase the pie he wants, provided he can pay for it, and not many of us can without help. It is out of the question that even the most pacifistic and fair-minded government can arrange transfer payments large enough to give every citizen over the course of seventy to eighty years all the health care medical science knows how to deliver and which may be required. Malthus said that absent war, famine, disease (and perhaps a bit of "moral restraint"), the world's population would grow geometrically while its means of subsistence would increase arithmetically. Professor Enthoven could add that if both the population and the cost of subsistence - subsistence meaning renal transplants, coronary artery bypass surgery, total hip replacements, bone marrow transplants and the like - increase geometrically, the gap between demand and supply can only widen.

A coronary artery bypass graft procedure, from diagnosis of the problem to discharge from the hospital, costs $15,000 if complications are few. Over 100,000 such procedures were done in the United States last year. That's $1.5 billion dollars, for one operation for a limited number of people. And in these dramatic "cures", the aging process is not

arrested. If we learn to immunize against cancer, we will do more cardiac surgery, and if we implant mechanical hearts successfully, we will treat more cancer. Already we have learned the price someone must pay for enabling a brain damaged 500 gram infant to survive, or a recipient of slightly delayed cardiopulmonary resuscitation to become another Karen Quinlan. Dr. Albert Jonsen's President's Commission to recommend a modern definition of death, and laws protecting the right to die, become relevant here, even though no one sees death as an acceptable solution to our dilemma. Such laws and definitions may offer relief to a few individuals and families. They will not enlarge the medical pie or diminish the numbers of those who would like a larger slice.

What then are we dealing with? If all cannot have everything, the equitable thing to do is to distribute fairly what is available. We have had a genius for devising orderly processes toward the making of difficult decisions. But no one wants to make this decision, which implies denying available medical care to someone. Politicians prefer to regard the decision as a medical matter. Physicians feel that no subscriber to the Hippocratic oath can withhold therapy from a person in need of it, and that if medical care is to be rationed, society as a whole through its elected representatives must vote for rationing and decide how to carry it out. We are not at a point where this conflict of preferences has to be resolved, but we are moving toward that day. Entitlement may then be more sharply defined, and we will have to agree upon who is entitled to live, and who must die. We may also have to decide whether entitlement is different for those who can pay their way in contrast to those who must receive public funds to have access to medical technology. This may sound far fetched, but until Senator Kennedy obtained Federal funding for hemodialysis therapy

for end stage renal disease, we were there. And the Kennedy program, many times more costly than anticipated, continues to grow out of control.

This essay sounds like the work of the Club of Rome, and is therefore subject to the criticism levelled against that august body's dire predictions - too gloomy and too soon. Even Malthus' mathematical imagination didn't foresee agrobusiness and birth control. We have some time, and perhaps something will turn up. In the more comfortable short run, what are the most likely prognoses for health care and its costs?

More Einthoven, to be sure. Medical science continues to explode, aided by the computer, and its discoveries are beautiful. Imagine training human cells to produce antibodies which are specific for a patient's cancer cells and which destroy them! It's been done, and this therapy will be available in this decade.

Enthoven? Some of his recommendations may find favor, but the immediate future will see more cost shifting than cost control. The public sector will reduce its blank check. Private patients will refuse to make up the reduction. And individuals, rich and poor, will pay more of their own medical bills, or receive a grudging charity.

We will hear less of entitlement from budget conscious governments, and see more anger directed against providers of medical care for their roles, real and imaginary, in increasing the costs of care. Physicians' incomes will come into question. The insurance principle as applied to medical care financing will begin to break down. Healthier segments of the population will opt out of the pool of all insureds and seek special, less costly arrangements such as employers' self-insurance for a young work force. This will increase medical insurance costs for the elderly unless legislation forces the young to rejoin the pool. In recessionary times politicians may have to choose between funding unemployment benefits and

funding health care for the indigent. It will be a hard time for politicians to make credible election promises concerning health care and to fulfill them.

We are fortunate to have these problems of sophisticated medical care because they imply that basic care is available for everyone, and because the miracles of more costly technology are available at all. I remember leaving the MGH* one night ten years ago with a colleague who has since become a professor of medicine at the Harvard Medical School. We had been making rounds in the Coronary Care Unit, a gleaming jungle of tubes and apparatus emitting strange swamp noises. I said, "The machines are restless tonight." He laughed and replied, "Just think, 90% of what we do here is irrelevant to the major health problems of the world. We are very lucky." We will count our blessings and muddle through. We could have had National Health Insurance.

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